

THE PHONOLOGICAL, MORPHOLOGICAL AND SYNTACTICAL
PATTERNS OF STANDARD COLLOQUIAL BENGALI AND
THE NOAKHALI DIALECT

by

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ABSTRACT

Standard Colloquial Bengali (SCB) is the language used by the majority of educated speakers at the present time in Bangladesh and West Bengal. In contrast with this standard language there are dialects of Bengali sufficiently different to be unintelligible to SCB speakers. One of these is the Noakhali Dialect, spoken in the southern part of the country on the border of the Bay of Bengal. It is a somewhat isolated region, which explains at least in part the development of this divergent form of the language.

The Noakhali Dialect (ND) differs from SCB at all linguistic levels: phonological, morphological and syntactical, as well as in lexicon. The aim of this thesis is to make a comparative and contrastive study of the standard language and the dialect at all these levels in order to establish the degree of their divergence. It is essentially a synchronic study, so that, in general, no attempt is made to link the present-day forms with possible ancestral sources in Sanscrit.

For the phonological and morphological analyses, the generative approach of Noam Chomsky and Morris Halle has been used, which involves a study of distinctive features. Special emphasis is given to the phenomenon of gemination, and vocalic and consonantal alternation. The phonological structure of the morphemes of each language has been reduced to rules, and the sets of inflectional and derivational morphemes are described in some detail.

As an approach to syntax, noun-phrase rules and verb-phrase rules have been elaborated for both languages. On the whole, however, SCB and ND differ little in their broader syntactical patterning so that a detailed study of their syntax would contribute little to a contrastive analysis.

Thus the main emphasis of the present study is at the level of phonology and morphology, where significant contrasts can be brought out, once the generative theories have been adapted to suit a language like Bengali which is more highly inflected than English.

R. J. Gregg

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Abbreviations

JOASA	=	The Journal of the Acoustic Society of America
ND	=	no date (of publication)
Lg.	=	Language
DCRN	=	District Census Report: Noakhali, 1961 (Population Census of Pakistan, 1961) Census 61, P. No. 105

Special Symbols

[]	=	phonetic
/ /	=	phonemic
{ }	=	morphemic
===	=	corresponds to
→	=	becomes or rewritten as
+	=	internal close juncture (in generative phonology + is used to show the presence of some properties)
-	=	minus (absence of some feature)
#	=	sentence or word boundary (#-: occurring initially; -#: occurring finally)
()	=	optional

Vocabulary symbols

Adj	=	adjective
Adv	=	adverb
NP	=	noun phrase

N	= noun	
VP	= verb phrase	
V	= verb	
V _t	= transitive verb	
V _{int}	= intransitive verb	
V2ob	= verb with two objects	
Aux	= auxiliary verb	
ca	= Case	
Nom	= nominative (Case)	
Ac	= accusative (Case)	
Ins	= instrumental (Case)	
D	= dative (Case)	
Ab	= ablative (Case)	
L	= locative (Case)	
Poss	= possessive (Case)	
Det	= determiner	
G	= gender	
Int	= intensifier	
N _{ab}	= abstract noun	
N _a	= animate noun	
N _{ia}	= inanimate noun	
N _u	= number	
MV	= main verb	
Past	= past tense	
Per	= person	P ₁ = first person
		P ₂ = second person
		P ₃ = third person

Sg	=	singular
Pl	=	plural
PP	=	prepositional phrase
Pr	=	pronoun
Prep	=	preposition
Pres	=	present (tense)
Prt	=	particle
S	=	sentence
Hon	=	honorific
Non	=	nonhonorific
Com	=	common
T	=	tense
V	=	vowel
C	=	consonant
ph	=	fully aspirated bilabial stop
p ^h	=	partially aspirated bilabial stop

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Chapter 1

1.0.

The present study is based on the phonological, morphological and syntactic patterns of Standard Colloquial Bengali (SCB) and the Noakhali Dialect (ND). It has been essentially contrastive in nature. Bengali has^a number of dialects, which vary in great degree in their phonology and morphology, and in some degree in syntax. The Noakhali dialect which is spoken in southern Bangladesh, was compared in this study with Standard Colloquial Bengali, in terms of phonology, morphology and syntax. The study is synchronic in nature as both SCB and ND are spoken at the present time and both the forms are shown at a level which correspond. The contrastive mode of study is helpful in the sense that the degrees of variation and similarity of the two forms of Bengali becomes clear through comparison. The generative model of Chomsky and Halle has been applied to describe the phonology and morphology of SCB and ND. The phonological section is broadly divided into three sub-sections. In the first sub-section, the inventory of phonemes of SCB and ND has been classified and later the distinctive features of the language have been described. In the second sub-section is a discussion of the three main vocalic and consonantal features which include diphthongs for vocalics, consonant clusters for consonantals and suprasegmental features in general. In the final section, the phonetic alterations of the vocalic and consonantal segments are described with feature-rules.

In morphology, the morphological patterns of SCB and ND are shown in three different sections. Stress is placed on the formation of morphemes, the way the morphemic elements combine together and play functional roles in morphology. In section 1, a general discussion on morphemes is followed by a description of the nature of SCB and ND morphemes. Inflectional and derivational morphemes are described in detail showing the differences in SCB and ND. In addition, the Morphemic Structure (MS) rules of Halle have been applied to show the morphemic structures of the language. Some of the MS rules are predictable for the morphemic combinations of the segments. These are quite regular in ND, especially where morphemes are composed of more than one CC and VV sequence. In the next sections, the Noun-Phrase rules (NP rules) and the Verb-Phrase (VP rules) introducing inflectional markers have been discussed as the nouns and the verbs of SCB and ND are inflected for some grammatical categories, such as tense, person and number.

No attempt has been made to describe the syntactic pattern of SCB and ND, as both SCB and ND have almost identical patterns, with a few exceptions. The most divergent patterns are noticeable in phonology and morphology, where they have different lexicons, phonetic variations, non-identical affixes and MS rules.

1.1.

There have not been any extensive studies in the past on these or any other dialects of Bengali¹, except some scattered essays,

¹ The most extensive work has been done in Bangladesh under the Bengali Academy, Dacca, which was founded for the promotion of the

which could be found on Noakhali¹, and other divergent dialects².
Some of them are worth mentioning here.

a) Gopal Halder, 1929

" A Brief Phonetic Sketch of the Noakhali Dialect of South-Eastern Bengali,"
Calcutta University Journal of the Dept. of Letters,
vol. xix, pp. 1-40.

b) Gopal Halder, 1933

" A Skeleton Grammar of the Noakhali Dialect of Bengali,"
ibid, vol. xxiii, pp. 1-38.

c) Krishnapada Goswami, 1940-1941

"Linguistic Notes on Chittagong Bengali,"
Indian Linguistics, vol. viii, Parts 2-3, pp. 111-162.

Bengali language and literature. Under their auspices several volumes of the Bengali Dialect Dictionary have been published with linguistic notes. The method used is identical in nature to that of the German dialectologist G. Wenker. Dialectal words were collected through local informants and school teachers and sorted later by the language experts in regional dialects. It was compiled and edited by M. Shahidullah. However, no attempt has yet been made in West Bengal to compile any such dialect dictionary.

1 Except Gopal Halder's two articles.

2 Worth mentioning here is the Sylheti Bhasatatter Bhumika (sileTi bhasatatter bhumika) 'An Introduction to Sylheti Linguistics', by Shibprasanna Lahiri, Bengali Academy, Dacca (ND).

d) Munier Chowdhury, 1960

"The Language Problem in East Pakistan,"

IJAL, vol. 26, No. 3, pt. 3, pp. 64-78.

e) M. Abdul Hai, 1965

"A Study of Chittagong Dialect,"

Studies in Pakistani Linguistics,
vol. v, pp. 17-38.

f) M. Abdul Hai, 1966

"A Study of Sylheti Dialect,"

Pakistani Linguistics, vol. vii, pp. 25-33.

g) Punya Sloka Ray, 1966

"Chittagong Dialect,"

Bengali Language Handbook, pp. 89-97.

h) M. A. Hai, 1966

"Dacca Dialect,"

ibid, pp. 80-88.

An addition to these is the monumental work done by George Abraham Grierson, the twenty volumes of the "Linguistic Survey of India" (1903-1928). Grierson made a total survey of the pre-partitioned Indian dialects. His main intention was to provide specimens of the different Indian dialects with short descriptive notes, which are as useful as the specimens.

The previous work may be broadly divided into three groups :
articles written from a structural standpoint (Hai, Ray, Chaudhury),
from a descriptive standpoint (Shahidullah, Goswami, Halder, Lahiri),
and those by non-linguists. The modern works are very sketchy

(Hai, 1965, 1966, Ray, 1966, Chaudhury, 1969).

1.2. Methodology

As the previous works are either sketchy or non-transformational, there is considerable scope for investigating the Noakhali dialect using transformational-generative models. To describe and analyse the phonological and morphological components of the Noakhali dialect (ND) and the Standard Colloquial Bengali (SCB), the generative model which has been introduced by Chomsky and Halle (1968) is followed in the present discussion. A short description of the generative model is given here.

In Syntactic Structures (1957), Chomsky introduced the transformational approach to describe syntax. Since then, other linguists including Chomsky himself, have explained and elaborated the transformational theory. Later, the method has been applied to describe morphology and phonology.

After Syntactic Structures, Chomsky expanded some previously generated rules in the Aspects of the Theory of Syntax (1965). Later more publications followed in support of the theory with further modifications and explanations. Among the most important contributors are, Lees (1952, 1963), Halle (1959), Postal (1962, 1966), Katz (1964), Bach (1964), Katz and Postal (1964), Kiparsky (1968), McCawley (1969) and Harms (1968),

Theoretically, transformational grammar is based on mentalistic psychology, where the main object is the study of mental entities (Katz, 1964, lg. 40-126). The linguistic competence and performance

of an ideal speaker-hearer, is perceptible as an internal grammar, which is describable as a system of rules which produce an indefinite number of grammatical sentences on the basis of phonological, morphological, syntactic and semantic interpretations. The transformational grammar describes them by a finite set of rules.

The phonological theory of the transformational grammar describes the phonological properties of morphemes or their higher forms (words, sentences). These are divided into three levels: lexical, phonological and phonetic. The phonological representations are obtainable from their surface structures, by applying phonological redundancy and other readjustment rules, which derive from lexical representation. The distinctive features specify the phonetic features of the phonetic representation of a surface structure. A phonetic feature is marked either by plus (+) or minus (-) sign, which assigns the presence or absence of some stated feature.

1.3.

A short description of the development of SCB, and the dialect situation in Bangladesh is given here.

Bengali is a member of the Indic group of the Indo-Aryan language family, and thus a direct descendant of Prakrit, and indirectly of Sanskrit (Fig.1).

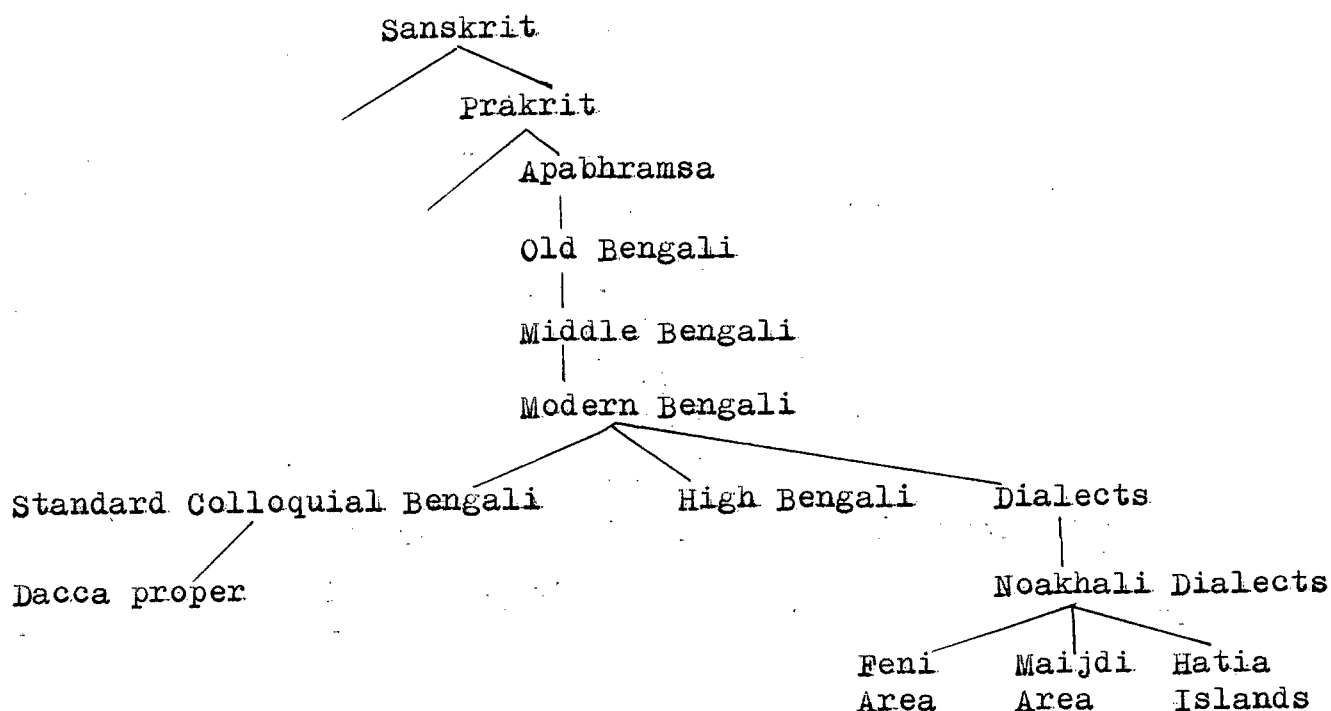


Fig.1 The development of SCB and different dialects and sub-dialects of Bengali

1.4. Dialect situations

Though SCB is spoken by the bulk of the educated class both in contemporary Bangladesh and West Bengal, there exist several divergent dialects of Bengali. Some of them, due to phonological and morphological differences, are not intelligible to SCB speakers.

The survival of these Bengali dialects is attributable to political and cultural causes. During the last two centuries until the partition of Bengal in 1947 into West Bengal and the former East Pakistan, Calcutta was the focal area of SCB. Though Bengali was spoken throughout the province,

social, political and religious factors blocked the widespread use of SCB. Dialects developed in different parts of the province, among them the Chittagong and Noakhali dialects in the south, Sylhet and Rangpur in the north and north-west, Midnapore and Bankura in the west, and East Bengali dialects in Dacca and Mymensingh. Moreover, educated Bengali elites in Calcutta formed typical linguistic patterns, which were largely unknown in other parts of Bengal (special mention to be made for verb ending suffix -um).

1.5. Classification of the dialects

The major dialect groups of Bengali can be broadly divided into the following classes:

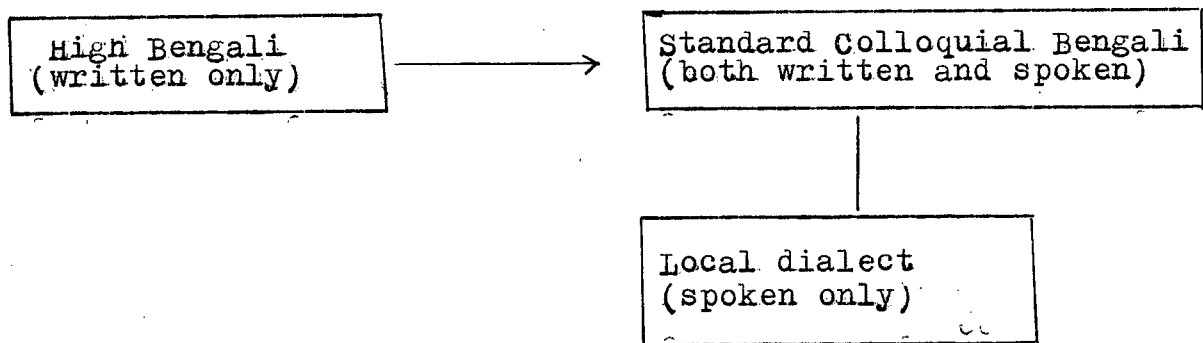
- a) Northern Bengali: The dialects of Dinajpur, Rajshahi, Bogra and Pabna.
- b) Rajbangshi : The dialects of Rangpur.
- c) Eastern Bengali : The dialects of
 - 1. Dacca, Mymensingh, Tippera, Sylhet;
 - 2. Faridpur, Jessore, Khulna.
- d) Southern Bengali : Chittagong, Noakhali, Chakma.

The above classification is made by Grierson (1903-1928), and is based more on geographical distribution than on structural criteria. Use of the latter would modify the classification of the Sylhet dialect (Chowdhury, 1960, Hai Hai, 1965 and 1966, Ray, 1966), which is structurally closer

to the dialects of Noakhali and Chittagong than those of Dacca, Mymensingh, and Tippera. Apart from the dialects of Sylhet, Noakhali, Chittagong and Rangpur (partly), the rest of the dialects are mutually intelligible due to substantial similarities in phonology and grammar.

1.6.

Due to the dialect situation in Bangladesh, most educated Bengalis (including those in West Bengal) are fully aware of the three distinct varieties of the language (Chowdhury, 1960-75). These are shown diagrammatically.



High Bengali (HB) is the Sanskritized written form of the language, and is not spoken by anyone. Standard Colloquial Bengali (SCB) is commonly spoken and written by the educated class. Local dialects are spoken mainly in their respective communities by different groups. A person who comes from a non-standard speech area uses three different varieties of the language interchangeably : local dialect at home, SCB

for inter-dialect encounters, and HB for educational purposes, although this tendency is changing rapidly, as most of the modern writers and authors of text-books are following SCB written patterns in their works. HB and SCB are the only two distinct varieties used by a SCB speaker.

1.7. Sub-groupings of the Noakhali Dialects

Noakhali is situated in the south of Bangladesh and borders the Bay of Bengal. To the north of it lie the districts of Comilla and Tripura (India); to the east are the Chittagong district and Tripura State. The Feni river marks its boundary with the Chittagong district and the river Meghna forms the western boundary of the district, while the Bay of Bengal forms its southern boundary (DCRN, 1961-1-3). The southern part of the district is lower in altitude than the northern area, and is heavily affected by tidal bores and other natural calamities.

According to the 1961 census, the total area of the district is 1955 square miles. It has a heavy rainfall, and humidity is even throughout the year. Due to its proximity to the Bay of Bengal it does not have extremes of climate in winter and summer. In summer the temperature varies from 75.7 F to 87.9 F and in winter 61.6 F to 80.3 F (DCRN, 1961-1-6).

The total population of Noakhali, according to the 1961 census report, is about 2,383,145, out of which 1,207,964 are

males and 1,175,181 females. The average density per square mile is about 1,285, the third highest in Bangladesh.

1.70.

The district of Noakhali is an interesting field for the study of dialect composition and variations. Differences which have developed in grammar have developed as a result of social variation, but differences in vocabulary and pronunciation are related to spatial, i.e. sub-regional variation. Differences in pronunciation in this area take many forms and could be described as three distinct types of variations, as enumerated by Hans Kurath (1949-14). These are :

- a) Differences in the pronunciation of the individual phonemes;
- b) Differences in the occurrence of the individual phonemes; and
- c) Differences in the system of phonemes.

The pronunciation of a word is the most important factor in dialect geography, as it is related to cultural, historical and political factors (Raven McDavid, Jr., 1964-25). These have been analysed in sec. 1.72.

1.71.

Noakhali differs considerably from the central region of Bengal around Calcutta, with respect to topography, plant and animal life, and economic conditions and also in its social structure. The dialects of this area developed quite separately from SCB, mainly due to existing differences in cultural and environmental background. The phonological and morphological

differences are easily noticeable in the vocabularies of SCB and ND. These differences are predictable in the way regional and local expressions have been preserved in the word stocks, and can easily be determined through contrastive studies. The speakers of this area make fundamental differences both in syntax and inflectional forms. In particular the local terms and usages are always preserved by the elderly or less educated persons, who have had less contact with the privileged class and have been confined to the same general area throughout their lives. The uncultivated people have a tendency to preserve and use the same inflectional endings whenever the pattern of speech permits. The ND speakers have also preserved their regional sound patterns, which are distinct from those of the standard language. This attitude of the ND speakers, has made the dialect unintelligible to the SCB speakers.

Except in Feni and Chaumohani in the Noakhali district, most of the area was historically composed of tiny towns and villages. There was no direct communication with the different villages due to lack of facilities. In the absence of SCB, the bulk of the people used the sub-regional forms of Bengali, which even varied in the different parts of the area. Only a few educated speakers of ND used SCB, those who had direct association and contact with the educated class in Calcutta.

1.72.

The cultural migrational history of the Noakhali is not clearly known, but it could be assumed that, apart from the local

Bengali inhabitants, they shared the culture of the Arabs and the Portuguese at large, as well as that of other neighbouring tribes. A district bordering the Bay of Bengal, it maintained its regional socio-cultural pattern, which more or less, is responsible for its sharp dialect variations with SCB and other dialects of Bengali. The early inhabitants of Noakhali, who came in large numbers to this area, maintained their speech habits taking advantage of geographical distance and administrative looseness of earlier central Governments of Bengal.

Owing to the vastness of the district, the inhabitants of Noakhali after initial population movements, settled down and extended their territory, developing the three dialect boundaries of the district (Map 2). Physical conditions aided the regions in maintaining their own dialects. The Hatia Islands, especially, being separated from the mainland, had an extra advantage in developing their sub-regional dialect.

1.73.

The close association which exists between HB, SCB and the Noakhali dialect should be shown here. In diagram 'X', a speaker from the dialect area (C) would be able to understand HB (A) and SCB (B) simultaneously, and knowledge and use of dialect C enjoys its own prestige in its region. In diagram 'Y', the non-native speakers of dialect C would not be able to understand dialect C, due to differences in pronunciations, vocables and syntactic pattern (Allen, 1964-215).

X- Dialect speaker



HB

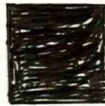


SCB



Dialect

Y- Dialect speaker



A



B



C

Fig. 2

These differences are shown in cyclic order in Figure 2, where the directions and the interrelations of the three different forms of Bengali have been represented.

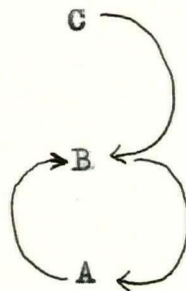


Fig. 3

A represents HB, B, SCB and C any dialect. For a C speaker, B is intelligible as it has higher social prestige than C, but not vice versa. It clearly indicates that C speakers always retain their dialect plus two other linguistic forms for sophistication. In the C area, though their pronunciation lacks recognition or distribution nationally, they enjoy local prestige.

Examples:

Group A:

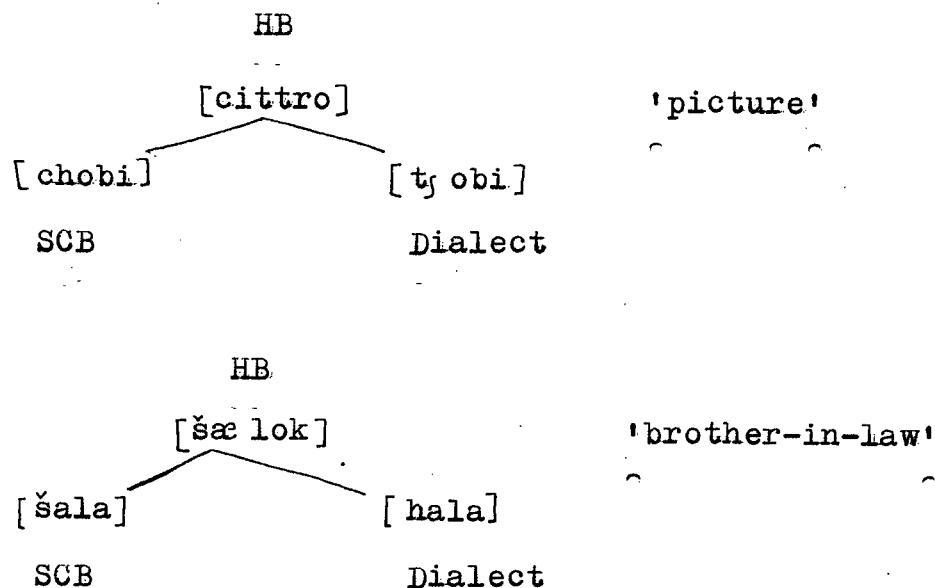


Fig.4 showing the distribution of the same word in three discrete forms

Group B:

SCB		Dialect
a. [mee]	'girl'	[maia] [mee]
[ma]	'mother'	[ma] [ma]
b. [chele]	'boy'	[tj aol] [tj ele]
[chobi]	'picture'	[tj obi] [tj sobi]

Fig.5 showing the form SCB words assume in ND

Retention of forms could occur in two ways: (a) where the local phonetic pattern does not clash with SCB, the SCB pattern could be retained and; (b) the SCB pattern is retained in the dialect, after it is transformed into the phonetic pattern of the local dialect.

1.74.

Noakhali dialects, due to their phonological and morphological patterns, are quite unique and completely unintelligible to SCB speakers. The main dialect area could be mapped into three sub-dialect areas, each of which is different from the others in its linguistic forms. These three areas are shown in Map 2, p.148, as (A), (B) and (C).

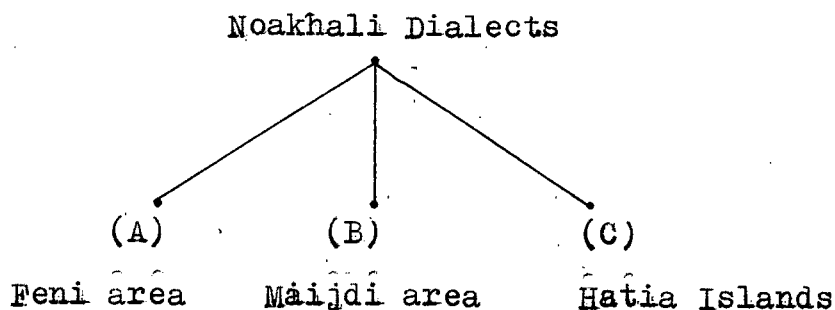


Fig.6 Noakhali Dialects

Dialect (A) is predominately used in Feni and its adjacent area, dialect (B) is used in Maijdi or the central part of the district, and dialect (C) is used in the Hatia Islands.

1.75. Informants

To obtain a corpus of the Noakhali dialect, two informants¹ were chosen ^{as a basis} for making generalizations on the above dialect structure. A contrastive study is made with the SCB, based on the speech of ~~the~~ speakers residing in Vancouver². Contrastive study is helpful in the sense that it clearly indicates deviations of the dialect from SCB, both in phonological and morphological patterns. At present due to non-availability of more informants, the scope has been restricted. The first type of informant mentioned by Kurath (Kurath, 1939-5) and others was not available on a full time basis for the present study. This type includes the older persons in the society, having limited education, and having fewer contacts with SCB. However, three sailors from the dialect area who conformed to some of these characteristics were available for a short time, and were used to check and compare the collected word-lists. In most

1 First informant Mr. M. A. Matin, is a student at U.B.C. in Food-Science. His parents and wife hail from the same area and he himself spent his first sixteen years in the dialect area. Age: 27 years.

The second informant Mr. M. A. Quddus, an ex student of U.B.C. in the Faculty of Commerce and Business Administration. He speaks the same dialect as Mr. Matin and spent twenty years in the dialect area. Most of his family members are still living in the dialect area. Age: 29 years.

cases, only the second type of informant, younger and educated and having more social contacts with SCB speakers was consulted for the present study. Both informants are from the same region (central part of Noakhali, Dialect B) and both of them truly represent the linguistic community. Though their speech is occasionally influenced by SCB vocabulary or grammar, differences in pronunciation exist. By sampling the speech of the two groups² of informants the local expressions used in the dialect area of Noakhali were determined and collected.

1 Full list of informants for SCB :

names	age	sex	occupation
D.Talapatra	29	M	student at U.B.C.
C.Chaudhurani	29	F	Post-Doc. at U.B.C.
B.Gupta	31	M	immigrant; came in 1965
Z.Haq	26	M	student at U.B.C.
A.Matin	27	M	student at U.B.C.
S.Haq	26	F	house-wife

1.76. Dialect Atlas

In preparing the dialect atlas common procedure was followed. Four different kinds of maps were used here to plot variations. The first is the lexical map which shows variations of the same word used by the native speakers of Bengali to indicate the same object. A list of items was made and taped with different informants who came from various regions. These are shown in the map after checking geographical points. The list consists of twentyone morphemes along with three short sentences. In making the word-list, three principles were followed (McDavid, Jr. 1958-484) which are ^{that items chosen should be} familiar to the investigated area, ^(a) easy to introduce ^(b) into a conventional system, and ^(c) suspected of having regional or social variations. The differences in the pronunciation of the same lexical form are shown in a phonetic map. A third map indicates geographical boundaries of usages. The main dialects of Bengali are shown in the last map. The dialect maps were prepared mainly to show the dialect differences and territorial distribution which compose the unique field of the study of the language in general. The social and regional variations in the dialect atlas are important as the different communities 'reflect the principal strains of settlement and facets of cultural development in the area as a whole' (Marckwardt, 1966-403).

Chapter 11

2. Phonology

2.0. Introductory remarks

The following discussion on the phonology of SCB and ND is based on the model introduced by Chomsky and Halle (1968) in The Sound Pattern of English. Emphasis is placed here on description of the overall sound patterns of SCB and ND. The discussion will cover two aspects of these patterns : (a) a description of the sound patterns of SCB and ND, and (b) an explanation of sound changes using feature rules. Two rules, as given by Kiparsky (1968), will be used, i.e. a rule on the way new segments are added in the morphemes and a rule on the way segments are omitted. These are commonly known as the simplification and addition of new rules.

The sound patterns of SCB and ND are described in six sections under the following headings :

- a) Classificatory method;
- b) Suprasegmental features;
- c) Diphthongs;
- d) Consonant clusters; and
- e) Gemination.

The overall sound-patterns of SCB and ND are described in the classificatory method section. The phonological

features of SCB and ND are described on the basis of distinctive features of the languages. These sound patterns, which are affected by adding vocalic and consonantal segments, are shown in diphthongs for vocalic segments as well as consonant clusters and gemination for consonantal segments.

Sound change in a language has a great impact on its phonological pattern through the simplification and addition of rules. In the present discussion, sound change is described in two ways : (a) the way the vocalic segments are changed in SCB and ND, either by adding or deleting this class of segments, and (b) the way the consonantal segments are changed by addition or deletion of consonantal segments in SCB and ND.

2.1. Classificatory Method

To investigate the phonemes of the Standard Colloquial Bengali (henceforth referred to as SCB) and Noakhali Dialect (henceforth referred to as ND) the following hierarchical ordering of parametric indices has been followed (Peterson and Harry, 1961). This method gives a quantified difference between any two phonemes. The parameters are as follows:

1a. Laryngeal action:

- .0 voiceless,
- .1 voiced

2a. Place of articulation:

- .0 bilabial
- .1 dental
- .2 retroflex
- .3 palatal
- .4 velar
- .5 glottal

3a. Manner of articulation:

- .0 vowel
- .1 stop
- .2 nasal
- .3 flap
- .4 lateral
- .5 spirant
- .6 fricative

2.10. Classification of SCB segments

The SCB phonemes fall in the following categories after applying rule 1a, 2a and 3a.

1a. Laryngeal action :

- .0 p, ph, t, th, T, Th, c, ch, k, kh
- .1 b, bh, d, dh, D, Dh, J, Jh, g, gh

All stops of SCB occur in symmetrical order following the vibration of the vocal bands, the top two sounds of each articulatory group are voiceless and the bottom two are voiced.

These are shown in the following figures :

/p/____/ph/	/t/____/th/	/T/____/Th/	/c/____/ch/
/b/____/bh	/d/____/dh/	/D/____/Dh/	/j/____/jh/
/k/____/kh/			
/g/____/gh/			

Fig. 7 stop in SCB

Rule 1a. needs revision for SCB, as it has two features due to laryngeal action, voicing and aspiration. The first phoneme of each articulatory group is voiceless and unaspirated, the second one is voiceless aspirated, the third member is voiced unaspirated, and the last member is voiced aspirated. These are represented by /p ph b bh / and corresponding symbols for the other stops. The aspiratory feature has added one extra rule for SCB sounds, which is shown below.

1a. Laryngeal action :

.0 nonaspiration

.1 aspiration

The following SCB sounds illustrate this feature :

1a.

.0 p, b, t, d, T, D, c, j, k, g

.1 ph, bh, th, dh, Th, Dh, ch, jh, kh, gh

2a. Place of articulation :

- .0 p, ph, b, bh, m
- .1 t, th, d, dh, n, r, l, š
- .2 T, TH, D, Dh, (R)
- .3 c, ch, ĵ, ĵh
- .4 k, kh, g, gh, ŋ
- .5 h

3a. Manner of articulation:

- .0 i, e, æ, a, , o, u
- .1 p, ph, b, bh, t, th, d, dh, T, Th, D, Dh, c, ch, ĵ, ĵh, k, kh, g, gh
- .2 m, n, ŋ
- .3 r, (R)
- .4 l
- .5 š, (s)
- .6 h

VOWELS

	front	central	back
high	i		u
high-mid	e		o
low-mid	æ		ɔ
low		a	

Consonants

	bilabial	dental	retroflex	palatal	velar	glottal
stops vs:ua/a	p ph	t th	T Th	c ch	k kh	
v :ua/a	b bh	d dh	D Dh	ɟ jh	g gh	
nasals	m	n			ŋ	
flaps		r	(R)			
lateral		l				
spirants		(s)		š		h

Fig. 8 Inventory of phonemes in SCB

2.11. Classification of ND segments

The inventory of phonemes in ND, however, varies from that of SCB. To investigate ND, the hierarchical ordering of parametric indices which have been followed for SCB needs modification as the dialect has articulatory features not found in SCB. The new parameters for ND, then, are as follows:

1a. Laryngeal action:

.0 voiceless

.1 voiced

1a.

.0 nonaspiration

.1 aspiration

2a. Place of articulation :

- .0 bilabial
- .1 dental
- .2 alveolar
- .3 retroflex
- .4 palatal
- .5 velar
- .6 glottal

3a. Manner of articulation:

- .0 vowel
- .1 stop
- .2 affricate
- .3 nasal
- .4 flap
- .5 lateral
- .6 spirant
- .7 fricative

The following segments have been obtained from the speech of the informants.

1a. Laryngeal action:

- .0 p t T t̃ k x f
- .1b v d dh D Dh ɖ g gh

1a'.

- .0 p b t d T D k g
- .1 d' D' g'

2a. Place of articulation:

.0 p b m f v

.1 t d d^c.2 t_ɟ d_ʒ n l r s(z).3 v T D D^c

.4 š

.5 k g g^c ŋ x

.6 h

3a.

.0 i e ε(æ) a o u

.1 p b t d d^c T D D^c k g g^c.2 t_ɟ d_ʒ

.3 m n ŋ

.4 r

.5 l

.6 s(z) š

.7 f v x h

One point that should be mentioned here is that ND /d^c D^c/ are not similar to the SCB /bh dh .../. These sounds are produced in the dialect with glottal closure and have a different acoustic and articulatory nature from the SCB aspirated stops.

Consonants

	bilabial		dental	alveolar	retro	pal.	vel.	glottal
stops	p		t			T		k
	b		d d'			D D'		g g'
affricate								
nasal	m		n					ɳ
flap			r					
lateral			l					
spirant			s(z)				v s	
fricative	f v						x	h

Vowels

	front	central	back
high	i		u
high-mid	e		o
low-mid	ɛ ~ æ		ɔ
low		a	

Fig. 9 Inventory of phonemes in ND

2.12. Discussion of ND vocalic segments:

Minimal articulatory differences exist in the SCB and the ND vocalic systems. The investigation indicated a seven-vowel system for SCB and ND, which appear as in the following representation.

	front	rounded	central	unrounded	back	rounded
high	i				u	
mid	e				o	
low	ɛ~æ			a		ɔ

Among the seven vowels of ND, only /ɛ~æ/ are in free variation. /æ/ is a recent innovation in the dialect, mostly in "cultured" speech, due to influence of SCB at this socio-cultural level. However, /æ/ has less frequency than /ɛ/. Examples for /æ~ɛ/ alteration are /læŋɡoT/ → /læŋɡoT/ 'loin-cloth'; /hæ n/ → /hɛn/ 'hot water of cooked rice'.

All the above vowels are also found in SCB but not the /ɛ~æ/ alteration. SCB contains only /æ/.

2.13. Binary Features of the vocalic segments:

The following four binary features are used here to categorize SCB and ND vowels as, "high", "low", "front" or "round". "High" vowels are defined as [+high, -low], "low" vowels as [-high, +low], "mid" vowels as [-high, -low,]

"front" vowels as [+front]. The central vowel is [-front, -round]. The following chart shows the feature specifications for SCB and ND vowels.

	i	e	æ(~ɛ)	a	ɔ	o	u
high	+	-	-	-	-	-	+
low	-	-	+	+	+	-	-
front	+	+	+	-	-	-	-
round				-	+		

2.2. Diphthongs

2.20. Discussion

Diphthongs are quite common in both SCB and ND. As the first vowel becomes longer than the second in forming diphthongs, an added feature of length may be shown for SCB and ND vowels.

Rule 1

$V_1 \text{---} \rightarrow [+long] / \text{---} V_2 C$

Rule 1 clearly indicates that V_1 is always longer than V_2 , both of which together form a diphthong.

Diphthongs may result from phonologic simplification for SCB and ND. The second consonantal segment of HB words, is dropped when these are adopted into SCB. This rule generates diphthongal words in SCB as the HB wordsegment pattern of CVCV becomes CV_1V_2 in SCB. Examples,

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[šokhi]	[šoi]	girl's girl friend
[dodhi]	[doi]	curd

In most cases, aspirated consonantal segments are dropped in SCB. This kind of change is modified further in ND, where [-kh-] of [šokhi] did not bring any diphthongal change but had the stop part of the segment dropped and the aspirated retained in utterance. Examples,

<u>HB</u>	<u>SCB</u>	<u>ND</u>	<u>Gloss</u>
[šokhi]	[šoi]	[sohi]	girl's girl friend

Rule 2

<u>HB</u>		<u>SCB</u>		<u>HB</u>		<u>ND</u>
[CVC ^h V]	----->	[CVV]		[CVC ^h V]	----->	[CV ^h V]

Rule 2 is applicable for the HB aspirated segment [kh], which becomes [ʋ] in SCB and [h] in ND.

2.21. Description of SCB diphthongs:

The following description of SCB diphthongs is based on the speech of the native Bengali speakers, as collected during the course of this study.

	<u>Examples</u>	<u>Glosses</u>
/i/ ----	[ii] [nii]	(I) take
	[dii]	(I) give
	[ie] [gie]	of going
	[bie]	wedding
	[ia] [Tia]	parrot
	[diaʃalai]	box of matches
	[io] [niɔnta]	controller
	[io] [dio]	(you) give
	[niom]	rule, law
	[iu] [ʃiuli]	a kind of flower
/e/ ----	[ei] [ei]	this
	[khei]	end of a thread
	[ee] [khee]	of eating
	[mee]	girl

[ea]	[nea]	of taking
	[khea]	ferry
[eo]	[keo]	some one
	[Jeo]	(you) go
[eu]	[Dheu]	wave
	[keuTe]	cobra
/æ /---	[æ ê] [bæ e]	expenditure
	[næ e]	(he/she) takes; justice
	[æ o] [dæ or]	husband's younger brother
	[næ oTa]	extremely submissive
/a/ ---	[ai] [bairé]	outside
	[chai]	ashes
	[ae] [khae]	(he/she) eats
	[Thae]	steadily
	[aa] [maa]	illusion; affection
	[chaa]	shadow
	[ao] [paona]	due
	[nao]	(you) take
	[au] [Jhau]	tamarisk tree
	[cauni]	looking
/ɔ/---	[ɔe] [nɔe]	nine; not
	[bɔeš]	age
	[ɔa] [dɔa]	kindness
	[bhɔanok]	dangerous
	[ɔo] [cɔora]	broad
	[bɔo]	(you) carry

/o/ ----	[oi]	[moi]	ladder
		[šoi]	signature; female friend
	[oe]	[šoe]	(he/she) lies down
		[dhoe]	(he/she) washes
	[oa]	[moa]	ball of sweet-meat
		[poati]	pregnant
	[ou]	[bou]	wife
		[coumatha]	junction of four roads
/u/ ----	[ui]	[thui]	(I) keep
		[šui]	(I) lie down
	[ue]	[nue]	of bending
		[dhue]	of washing
	[ua]	[dhua]	refrain
		[gerua]	coloured with red ochre
	[uo]	[juo]	gambling
		[kuo]	well (n.)

2.22. Description of ND diphthongs:

In ND, the diphthong may be oral or nasal. Formation of diphthongs is common in ND due to its phonetic habits, where medial or final consonantal segments are dropped and a vocalic segment is added in compensation (Halder, 1929-23). The nasal diphthongs are identical in number to their oral counterparts. As nasalization is quite a common phonetic feature of the dialect, nasal diphthongs are widespread in ND.

The total number of oral diphthongs of ND is described here, as obtained from both the speech of informants and previous studies.

	<u>Examples</u>	<u>Glosses</u>
/i/ ----[iɛ]	[iɛn]	here
	[d i n]	that one
[ia]	[hial]	jackal
	[hia]	that
[iɔ]	[biɔd]	difficulty
	[hiɔl]	chain
[io]	[nariol]	coconut
[iu]	[hiuk]	let (him) learn
/ɛ/ ----[ɛi]	[bɛil]	time
	[bɛina]	in the morning
[ɛa]	[k ^h ɛa]	ferry
	[dɛa]	of seeing
[ɛu]	[D ^h ɛu]	wave
/a/ ----[ai]	[bail]	brother
	[tɣail]	rice
[ae]	[k ^h ae]	(he/she) eats
	[gadae]	(on) ass
[ao]	[ɖ̪ ao]	(you) go
	[t ^h ao]	(you) stay
[au]	[bau]	Sir; Mr.
	[ɖ̪ au]	cypress

	<u>Examples</u>		<u>Glosses</u>
/ɔ/ ---	[ɔe]	[kɔe]	(he/she) speaks
		[lɔe]	(he/she) takes
	[ɔɔ]	[ɔon]	now
		[kɔɔ]	(you) speak
/o/ ---	[oi]	[doi]	curds
		[boi]	books
	[oe]	[d ^h oe]	(he/she) washes
		[tj oe]	(he/she) sucks
	[oa]	[noa]	new
		[roa]	that which has been sown
	[ou]	[bou]	wife
		[tj ouk]	eye
/u/ ---	[ui]	[ɕ uit]	advantage
		[d ^h ui]	(I) wash
	[ue]	[mue]	in the mouth
	[ua]	[tj ua]	sour
		[gua]	betel nuts
	[uɔ]	[huɔr]	swine

As in the ND, all SCB diphthongs may be nasalized.

2.3. Consonant Clusters

2.30.

boundary between the
The/vocalic nuclei of two neighbouring syllables within the same section may be composed of one or more consonants in SCB and ND. In this environment, as well as initially, there are three possibilities for the distribution of the consonants; they might form an initial (onset) CC sequence followed by a vowel [dr-i], a final (coda) CC sequence followed by a vowel [-tr-i] or may be split between the two syllables [-s-t-] (Pulgram, 1970-79).

- a) CVC-CV [pɔSto] 'clear'
- b) CCVC-CV [driS-Ti] 'sight'
- c) CCCV [stri] 'wife'
- d) CCVC-CV [šrad-dho] 'obsequial rites'
- e) CVC-CCV [miš-tri] 'carpenter'

Among the given possibilities of combination of consonants, (a) the [S-T] combination, part of (b), the [d-dh] part of (d) and the [š-t] part of (e) cannot qualify as consonant clusters as they are separated by a pause juncture. Therefore, the grouping with the vocalic segment restricts the possibilities of the adjacent consonants qualifying as clusters to only three ways. They are, CCV, CCCV and CCVC.

2.31.

The SCB phonemes /s/, /p/ and /r/, occurring initially and followed by a vowel, may combine with each other as

/#prv-/ and /#spv/ and are capable of occurring in strings, such as in the following words [pran] 'life', [priti] 'affection', and [spɔSto] 'clear'. This rule, however, has limited application in ND, primarily due to the restricted distribution of its consonantal segments.

The SCB initial clusters break down into two syllabically separate components, an initial consonant being preceded by a vowel.

This feature prevents the formation of consonant clusters in ND.

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[spɔSto]	[pɔSTɔ]	clear
[STeʃən]	[iSTiʃən]	station
/#spv/	/#pv/	
/#stV/	/#VS-TV/	

In ND the initial consonant^{may also} become zero. The new rule for ND may be mapped as follows:

<u>SCB</u>	<u>ND</u>
/#C ₁ C ₂ V-/	----- /#QC ₂ V-/

This rule is applicable to most SCB/ND pairs.

1 The above discussion is based on the following articles:

- a) Jones, Lawrence Gaylord: "English Consonantal Distribution", in For Roman Jakobson, The Hague, 1956.
- b) O'Connor, J.D. and J.L.M. Trim: "Vowel, consonant and syllable-a phonological definition", word, 9.2 (1953)

2.32.

In SCB, medial clusters are very common, initial clusters are less frequent and final clusters are nonexistent except in some foreign loan words (Ferguson and Chowdhury, 1960-47). The following two feature rules are applicable for the formation of consonant clusters in SCB.

Rule 3

$$C_1C_2 \text{ -----} \rightarrow [\text{any stop}] + [r] \text{ or } [l]$$

Rule 3 handles such sequences as, any member of the class stop plus /r/ or /l/. Examples:

	<u>Glosses</u>
[driSTi]	sight
[briSTi]	rain
[klanto]	tired

Rule 4

$$C_1C_2 \text{ -----} \rightarrow [s] + [\text{any stop}] \text{ or } [r]$$

Rule 4 is applicable for sequences such as /s/ + either any stop or /r/. Examples:

	<u>Glosses</u>
[sriSTi]	creation
[sranti]	exhaustion
[sriti]	memory
[sroSTa]	creator

Initial consonant clusters are preceded by one of the suprasegmental features, /+/, /1/ or /#/.

2.33. Medial clusters

Medial consonant clusters are frequent in SCB. The most common occurrence happens to be with stops, where a particular articulatory class of segments is always preceded by same class of segments. The stops in SCB occur in systematic articulatory order, unaspirated sound is followed by an aspirated sound (i.e., /p+ph/, /t+th/, /T+Th/, /c+ch/, and /k+kh/), and the voiceless sounds are followed by their voiced counterparts (i.e., /b+bh/, /d+dh/, /D+Dh/, /j+jh/ and /g+gh/). This establishes that a voiced stop is always followed by another of the voiced class and an unvoiced stop is always followed by an unvoiced stop. However, the /p+ph/ occurrence is nonexistent in the language. All consonant clusters occurring medially in a word occur at word juncture (Ferguson, 1962-31).

2.34.

Most of the consonant clusters which occur in ND are medial. No evidence of initial consonant clusters is to be found either in the informants speech or any other available specimens. One tendency is strong in ND where most of the clusters occur with initial non-stop members, and the

second segment is either a stop or a non-stop. Another feature is that the last segment is a vowel or a diphthong. Occasionally a consonant preceded by a vowel. Therefore, there are three possibilities at the end of consonant clusters in ND, which are shown here.

Rule 5

$$C_1C_2 \text{ -----} \rightarrow [+ \text{ cluster}] \quad / \quad \begin{Bmatrix} C \dots C_1C_2 \\ V \dots C_1C_2 \end{Bmatrix} \text{ in the env. of}$$

$$\begin{Bmatrix} V \\ V_1 V_2 \\ V C \end{Bmatrix} \quad \begin{matrix} 1 \\ 2 \\ 3 \end{matrix}$$

This rule indicates the possibilities of a consonant cluster occurring in ND, where the onset of a syllable may be either a vowel or a consonant, and the cluster occurs after the pause juncture, which is preceded either (1) by a vowel, (2) diphthong or (3) by a vowel and a consonant.

A few examples of the consonant clusters which occur in ND are given here. The list is not ^{meant} to be exhaustive, but rather representative of the kinds of combinations one may meet.

Examples of the consonant clusters in ND :

	<u>Glosses</u>
1 [k+t] [thaikte]	of staying

Glosses

	[tekto]	annoying
2 [k+l]	[thaikle]	if (he/she) could stay
	[deikla]	what did you see ?
3 [š+t]	[pbošta]	condition
4 [t+r]	[sɔtro]	seventeen
	[dʒatra]	opera
5 [tj+s]	[poritʃsɔd]	chapter
6. [f+r]	[ufre]	on
7 [r+th]	[pirthibir]	of earth
8 [ŋ+g]	[hɔŋge]	with
	[aŋgo]	of us
9 [r+t]	[ʃorta]	(he/she) throws
10 [S+T]	[biSTi]	rain
11 [N+D]	[DOND]	moment
	[kondai]	where
12 [m+k]	[dhɔmkæ]	(he/she) abuses
13 [n+dʒ]	[haɪndʒer]	at evening
	[mɔndʒar]	of fun
14 [m+n]	[amne]	you (hon.)
	[sɔmne]	in front
15 [T+k]	[ʃuitka]	the young one
16 [tj+tʃ]	[aitʃtʃa]	all right
	[hugoitʃtʃe]	making sound
17 [r+g]	[buirga]	old person

		Glosses
18 [n+k]	[panka]	fan
19 [r+d]	[fɔrda]	curtain
20 [n+d]	[nondi]	river
21 [tj+l]	[naity lo]	(she) danced
22 [g+dʒ]	[laigdʒ lo]	(I) appreciated
	[laigdʒ il]	(I) liked it

2.35.

Consonant clusters never occur before or after any nasalized vowels, as in SCB nasalized vowels always precede or follow a single segment with a stress. Nasalized vowels followed or preceded by another nasal consonant do not occur in SCB or ND either.

2.4. Gemination

Gemination is quite common in SCB and ND. Long consonants have phonetic occurrence under certain conditions. In SCB and ND, the preceding consonantal segment is always longer than the following one. This contrast is a significant in geminated consonants (Lehiste, 1970-20). All the consonantal segments except /r/ and /h/ can be geminated in SCB and ND.

2.40.

Apart from colloquial words, two rules are applicable for the gemination of the Sanskritized lexical items used in SCB and ND. If the third segment in a word is /j/, it is deleted and the preceding segment is geminated, e.g.,

padja 'lotus' --- paddo ; madja 'wine' ---- maddo;

kabja 'poetry' ---- kabbo . If the ^{third} segment is a nasal consonant, it is deleted and the preceding segment is geminated, e.g., padma 'name of a river-Padma' --- padda ;

padmo 'lotus' ---- paddo ; sadma 'now' --- saddo .

The structural change of the Sanskritized words is shown in the following diagram.

first consonant ---- /p m k s/

second consonant ---- /d/

third consonant ---- $\begin{bmatrix} j \\ m \end{bmatrix}$

Rule for structural change:

$C_1C_2C_3 \rightarrow C_1C_2C_2$

The feature rule may be applied to the prior changes, where simple segments become geminated.

Rule 6

$$\begin{bmatrix} + \text{consonantal} \\ + \text{anterior} \\ + \text{voice} \\ + \text{nasal} \end{bmatrix} \rightarrow [+ \text{geminated}] / \begin{bmatrix} *+ \text{consonantal} \\ + \text{coronal} \\ + \text{anterior} \end{bmatrix} \dots$$

This rule can easily handle the geminated feature of the sequences such as $[-dm] \rightarrow [dd]$.

Rule 7

$$\begin{bmatrix} - \text{vocalic} \\ - \text{consonantal} \\ + \text{high} \\ - \text{back} \\ - \text{low} \\ - \text{anterior} \\ - \text{coronal} \\ - \text{round} \end{bmatrix} \rightarrow [+ \text{geminated}] / \begin{bmatrix} + \text{anterior} \\ + \text{coronal} \\ + \text{consonantal} \end{bmatrix} \dots$$

Rule 7 is applicable to sequences such as $[-dj-] \rightarrow [-dd-]$.

2.41.

The following list is prepared to show minimal pairs of the geminated and non-geminated word classes. All

examples are chosen from SCB as the contrast is more frequent than the ND.

<u>Examples</u>	<u>Glosses</u>	<u>Examples</u>	<u>Glosses</u>
[kanna]	weep	[kana]	blind
[panna]	jewel	[pana]	water-hyacinth
[bonna ¹]	flood	[bona]	to weave
[šotti]	true	[šoti]	chaste(fem.)
[bonno]	uncivilized	[bono]	(you) weave
[cɔkkor]	round	[cɔkor]	kind of partridge
[pollɔ]	village	[poli]	silt

The following examples are given here to show the possible types of gemination of the consonant segments in SCB.

1 /p+p/

[khɔppor] clutches

[thappor] slap

2 /b+b/

[māto**bb**ɔr] chief

[dibbi] swearing oath

3 /t+t/

[pɔ**tt**or] letter

[šotti] true

4 /d+d/

[kɔ**dd**ur] how far ?

[ro**ddi**] rotten

	<u>Glosses</u>
5 /T+T/	
[gãTTa]	fist
[ThaTTa]	joke
6 /D+D/	
[aDDa]	temporary lodging
7 /c+c/	
[guccer]	heap of
[gacca]	compensation
8 /J+J/	
[raJJô]	kingdom
[lôJJâ]	shame
9 /k+k/	
[bikkri]	sale
[côkkor]	round
10 /g+g/	
[Jigges]	to ask
[biggan]	science
11 /m+m/	
[šômmoti]	permission
[šômman]	honour
12 /n+n/	
[ginni]	house-wife
[onno]	other
13 /š+š/	
[doššû]	robber
[aššîn]	sixth month of the Bengali year

14	<u>Gloss</u>
14 /l+l/	
[holla]	uproar
[polli]	village

2.42. Gemination in ND

Gemination is a common phonetic feature in ND, as it occasionally causes one segment to be replaced by another for phonetic correlation in a word. The dialect has a common tendency to assimilate the trilled segment /r/ of SCB to the following segment. The following examples will clarify this tendency in ND.

<u>SCB</u>	<u>ND</u>	<u>Changes</u>	<u>Glosses</u>
[muhurto]	[munuttɔ]	[-rt-] == [-tt-]	moment
[parte]	[faitta]	[-rt-] === [-tt-]	(you) could
[korlo]	[koillo]	[-rl-] === [-ll-]	(he/she) did

The phonetic tendency of ND, where [-rt-] or [-rl-] sequences change into [-tt-] and [-ll-], may also be explained through the cluster simplification rule. Occasionally, consonant clusters either become a simple consonantal segment or a geminated one for ease of articulation as happened in the above sequences of [-rt-] === [-tt-], [-rl-] === [-ll-]. The following rule is applicable to the the [-rt-], [-rl-] sequences, which either become simple consonant or geminated.

Rule 8

C₁ ----> C₂ // -- C₂

Condition: C₁ becomes C₂, if C₂ follows C₁ .

A few examples are given here to show the geminated features in ND.

Group A

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[kɔtna barta]	[kɔta batta]	chit-chat
[partam]	[faittam]	(I) could
[parte]	[faitta]	(you) could
[korlo]	[koillo]	(he/they) did

Group B

[uponnaš]	[ufoinnaš]	novel
[kichu]	[kiššu]	a few
[æ kbar]	[ɛkkana]	once
[bæ ka]	[bēikka]	curved
[ɟuddho]	[dʒ uddɔ]	fight; war
[šedin]	[heidinna]	that day
[manuše]	[mainne]	the people

2.5. Suprasegmental features

2.50. Introductory remarks

Three aspects of SCB and ND are covered in suprasegmental features. These are the stress, pitch and junctural patterns which play an important role in the two languages. These features do not play the same role in SCB and ND, but the variations do not bring about any fundamental differences between them. The three suprasegmental features are described in the following sections, showing similarities and differences in SCB and ND.

2.51.

Stress is not phonemic in either SCB and ND as it does not exist with contrasts on the position of intensity. It may be said that its position is automatic and does not have any semantic role. Due to its non-phonemicity, there are no contrasting levels of stress. It is so non-significant that the presence or absence or position does not alter the sense of any morphemes (Chatterjee, 1921-19). SCB and ND have emphatic stress which is used to give emphasis and contrast (Ferguson and Chowdhury, 1960-25). This is characterized by tenser articulation of consonantal segments and by lengthening of vocalic segments, which spreads over a syllable.

2.52.

Both in SCB and ND stress is predictable mostly for the inflected morphemes where it is always placed on the initial syllable. The following examples will show the initial stress system of the language.

<u>SCB</u>	<u>Gloss</u>	<u>ND</u>	<u>Gloss</u>
[¹ kal ešo]	Come to-morrow	[¹ dʒɔr oiše]	I got fever
[¹ Jodi cao ešo]	If you feel to	[¹ adʒki kirum]	What shall I do
	come, please do so.		to-day?
[¹ tar šorir]	He is not	[¹ he balai kam	He got a good
[¹ bhalo nei]	feeling well.	kore]	job.

2.53.

Though word stress is always subsidiary to sentence-stress, there are few exceptions to this rule. Chatterjee (1921-19) shows that conjunctions, particles, auxiliaries in compound verbs do not receive any stress. If any noun follows an adjective it loses the stress, which falls on the adjective. The initial stressing system of the language has caused umlaut and vowel harmony.

2.54. Juncture

Juncture is important as a feature for SCB and ND. Due to its important role in the language, it is capable of altering the meaning of utterances.

Two different kinds of transitions between successive

vowels and consonants may exist in a macrosegment in SCB and ND. Examples such as [pagol ašche] 'the mad man is coming', and [tar pa gol] 'his leg is round', clearly indicate that the transition between /a/ and /g/ of pagol is muddy (Hockett, 1967-55) but a sharp transition exists in the /a/ and /g/ of [pa] and [gol]. The first type of transition which exists in SCB and ND may be called close juncture, where each segment follows the other closely and the transition is not marked by any feature (e.g., [pagol]). A second type of transition exists in the languages where it is marked by a pause between two contiguous segments of an utterance which may be referred to as internal open juncture, (e.g., [pa] + [gol]) (Bloch and Trager, 1942-47). This is shown in the following examples.

Examples from SCB:

	<u>Gloss</u>
1) [pagol]	mad
[pa+gol]	'leg is round;
2) [nilam]	I took
[ni+lām]	auction
3) [mana]	prohibited
[ma+na]	is not mother?
4) [keṇa]	of buying
[ke+na]	who is not ?
5) [baḡane]	in the garden
[ba+ḡane]	or in music

- | | | |
|----|-----------|-----------------|
| 6) | [phulki] | flame |
| | [phul+ki] | is it a flower? |
| 7) | [kobita] | poetry |
| | [kobi+ta] | poet, oh! |

Due to assimilatory factors and the inflectional nature of the language, the junctural system has importance in SCB.

Examples from ND:

	<u>Gloss</u>
1) [dao]	give me
[da+o]	bill-hook
2) [fɔler]	of the hall
[fɔl+er]	of the fruit
3) [mɔndɔ ar]	of great pleasure
[mɔn+ɔ ar]	whose mind?
4) [buer]	of underarm
[bu+er]	of sister
5) [kagi]	auntie
[kag+i]	of the crow

2.55. Length

Length or quantity of sounds, depends on the duration of sounds in connected speech. Generally, length is not marked in SCB, but it has a simple role in the dialect. The following discussion is based on individual treatment of SCB and ND.

2.550.

It is quite evident that most of the vowels of the one-syllable words (without any juncture), consisting of a single vocalic segment, followed and preceded by consonantal segments, are long.

Examples from SCB:

	<u>Glosseg</u>		<u>Glosses</u>
[kɔ:r]	(you) do (inf.)	[korta]	senior person
[ghɔ:r]	room	[ghorami]	hut builder
[ki:]	what?	[kintu]	but
[co:l]	(you) walk	[cola]	of walking
[ka:j]	work	[kajer]	of work

Examples from ND:

[gɔ:r]	house	[gɔ re]	in the house
[hi:t]	cold	[hite]	in winter
[mɛ:g]	cloud	[mɛger]	of cloud
[dɛ:š]	country	[dɛšer]	of the country
[dʒɔ:l]	water	[dʒɔ:lɛr]	of water

The examples on left hand side fulfil the rule for length and are uninflected morphemes, but the examples are on the right-hand side do not fulfil the condition for length as those are inflected morphemes with a juncture. The rule for length is shown here.

[any segment] ----> [+ long] #CVC#

[any segment] ----> [- long] #-/CVC/-#

Rule (9) is applicable to both SCB and ND.

2.6. Phonetic Alterations of the vowels.

2.60. Introductory remarks

Both vowels and consonants undergo certain changes in different phonetic environments. Some modifications are very regular in the language. Phonetic variations of SCB and ND are described in the following sections under two headings. The phonetic variations which are observed in the vocalic segments are treated separately from alterations found in the case of the consonantal segments.

2.61. Epenthesis

Epenthesis falls in the category of Rule Addition (King, 1969-106), where one vocalic segment is added to the morpheme. It is the opposite of reduction where segments are dropped, generally serving to facilitate the transition between sound groups.

This kind of phonetic change is found to occur only in ND. Epenthetic vowels are not preserved in SCB as they led to some other phonetic features such as diphthongs (Chatterjee, 1926-379). Epenthetic change may be regarded as a non-gradual change, as the epenthetic vowels do not show any gradual

development in the dialect. For example:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[aɪ] ---	[aidɪ]	to-day
[kal] ---	[kail]	to-morrow
[mondo] ==	[moindo]	bad
[šuno] ---	[šuiño]	(You) near
[bolte] ==	[boiltɛ]	of saying

In the examples given above, the epenthetic vowels /i/ does not exist in SCB, though its occurrence is very regular in ND.

Epenthetic /i/ is also added in the onset of words in the dialect. In adding additional segments, Rule 10 is applicable to ND.

Rule 10

[epenthesis] -----> [+ epenthesis] / #- $\left\{ \begin{smallmatrix} CV \\ V \end{smallmatrix} \right\}$

The rule applies to ND where an addition of a new vocalic segment occurs in two contexts: (a) if the onset of a word begins with a consonantal and a vocalic segment, or (b) within a vocalic segment. The additional vocalic segment is followed either by a vocalic segment or a consonantal and a vocalic segment.

2.62. Prosthesis

Phonetic change due to a prosthetic vowel is extremely rare in SCB; however, this kind of change can be found in ND. The intrusion of a new vowel is used mainly to break down initial consonant clusters into two parts for ease of articulation. When learned or foreign words are pronounced by the dialect speakers, the inclusion of a prosthetic vowel becomes evident. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[ʃtʲeʃɔn]	[iʃtʲiʃɔn]	station
[stri]	[iʃtʲiri]	wife
[spɔndɔn]	[iʃpɔndɔn]	vibration
[spɔstɔ]	[iʃpɔstɔ]	clear

Prosthesis may be taken as an addition of a segment, as new vocalic segments are added to break through consonant clusters. In another way, it could also be analysed as a cluster simplification rule. The following rule may be applicable for the addition of any prosthetic vowel.

Rule 1.1

[CC-] ----> [VCC-]

2.64. Anaptyxis

Anaptyxis is a common feature in SCB which appears less frequently in ND. The role of anaptyxis in the

language may be regarded as a simplification feature, anaptyxis being the insertion of a vocalic segment or segments between nasal, lateral or other consonants to break up consonant clusters. Sometimes, consonant clusters are broken down in SCB for metaphoric use in poetry. Anaptyxis is caused in two ways, either by the insertion of a vocalic segment or by replacing the vocalic segment in the original form of a word. Bloomfield defines it, "when a relatively sonorous phoneme is non-syllabic, it often acquires syllabic function ... this is often followed by another change...the rise of a vowel beside the sonant, which becomes non-syllabic." The inserted vocalic segments can be found between two consonantal segments but more frequently they are used with a nasal (except /ŋ/) or a liquid. Four different feature rules are shown here for handling anaptyxis in SCB and ND.

Rule 12

$$[\text{anaptyxis}] \rightarrow [+ \text{anaptyxis}] \quad /C [\text{stop}] \begin{bmatrix} \text{liquid 1} \\ \text{liquid 2} \end{bmatrix}$$

Rule (12) is capable of handling such sequences as [d-r], [g-r], [k-r], [t-r], or [g-l]. All the first members are stops, whereas the second members are the two liquids [r] and [l]. The distribution of these kinds of sequences are quite common in SCB. Examples:

Examples:

<u>HB</u>	<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[candra]	[cɔndɔr]	[tɔ ndɔr]	moon
[gram]	[geram]	[gɛram]	village
[cɔkkro]	[cɔkkɔr]	[tɔ kkɔr]	round
[bikkrae]	[bikkiri]	..... 1	sale
[mitttra]	[mittɔr]	..... 2	friend
[šotttru]	[šottur]	..... 3	enemy
[glaš]	[gelaš]	[gilaš]	glass
[pluš]	[pluš]	[pilaš]	plus

Rule 13

[o] # ----> [o] / - [C₁C₂]

Rule 13 explains the anaptycal change which occurs in the phonetic environment established when the third and fourth segments of a word constitute a C₁C₂ sequence and where C₂ is always a nasal [m], and the sequence is preceded and followed by [ɔ] and [o]. For phonetic simplification the final [o] alters its position and occurs before the nasal [m].

Examples:

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[Janmo]	[ʃɔnom]	birth
[dharmo]	[dhɔrom]	religion
[kɔrmo]	[kɔrom]	work

1 2 3 There is no equivalent word in ND.

2.64. Vowel Harmony

The modifications of vowels due to assimilatory processes in a word are common in SCB. These types of modifications are more frequent among the speakers of West Bengal than those of Bangladesh. It is found that certain vowels have a restricted distribution, and they allow only certain kinds of vowels in the successive syllables of a word (Bloomfield, 1966-181).

Rule (14)

V

#CC --- > C [i] C

This rule explains the intrusion of the vowel [i] when a C₁ C₂ sequence occurs initially in any morpheme. Examples:

<u>HB</u>	<u>SCB</u>	<u>Gloss</u>
[šneho]	[šineho]	affection

Rule (15)

uCCo - - - > uCuC

Rule (15) converts [o] to [u] in the phonetic environment where [o] occurs finally and is preceded by a CC sequence. This rule has limited application as few sequences of this type are found in the language. Example:

<u>HB</u>	<u>SCB</u>	<u>Gloss</u>
[šurjo]	[šuruj]	sun

When HB words are used in SCB, some of the medial or final vowels are modified for similarity, which may be called vowel harmony. Four different modifications of the vowels are noticed in SCB. These are shown below with rules and examples.

2.640.

<u>HB</u>	<u>SCB</u>	<u>Gloss</u>
[deši]	[diši]	homogeneous

[e] ---> [i]

In the example given above, the modification is noticeable where the high-mid [e] vowel becomes high [i] for vowel harmony in a word. The following rule is capable of handling the change of [e] into [i].

Rule 16

<u>V</u>		<u>V</u>	
$\begin{bmatrix} - \text{ high} \\ - \text{ low} \\ + \text{ front} \end{bmatrix}$	→	$\begin{bmatrix} + \text{ high} \\ - \text{ low} \\ + \text{ front} \end{bmatrix}$	/ --- [-ši] #

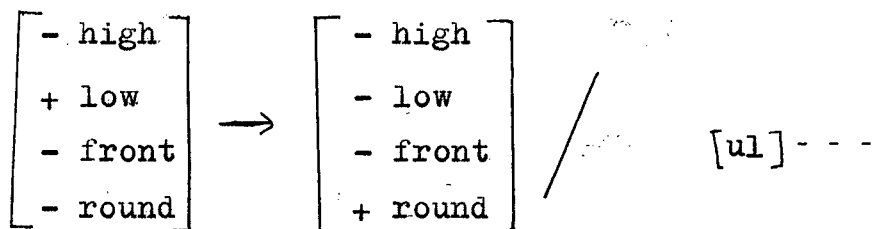
2.641.

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[tula]	[tulo]	cotton
[mula]	[mulo]	a kind of vegetable
[a] ---> [o]		

The central vowel [a] changes into back vowel [o], if it

is preceded by the lateral sound [l] . [l] is always preceded by the vowel [u] .

Rule 17

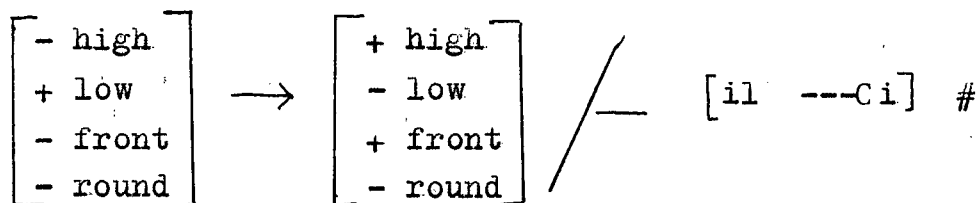


2.642.

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[bilati]	[biliti]	foreign goods
[jilapi]	[jilipi]	a kind of sweet
[a] ---> [i]		

The modification of [a] into [i] occurs if [a] is preceded by lateral [l] and the second and sixth vocalic segments are [i] .

Rule 18



2.643.

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[cuma]	[cumu]	kiss
[ghumano]	[ghumuno]	of sleeping

[a] ----> [u]

In the examples cited above the central vowel [a] changes into the back vowel [u], in the phonetic environment where [a] is preceded by nasal [m].

Rule 19

$\begin{bmatrix} - \text{ high} \\ + \text{ low} \\ - \text{ front} \\ - \text{ round} \end{bmatrix}$	→	$\begin{bmatrix} + \text{ high} \\ - \text{ low} \\ - \text{ front} \\ + \text{ round} \end{bmatrix}$	/ m --- #
---	---	---	-----------

2.65. Nasalization

Both in SCB and ND, the number of nasalized vowels is equal to that of their oral counterparts, though the frequency of occurrence of nasalized vowels is far less than that of oral vowels. Ferguson (1968-59) quotes an oral-nasal vowel frequency ratio of about 50:1.

Nasalization is a common feature both in SCB and ND. All the oral vowels may be nasalized, and this feature has a strong impact in the language system. Therefore, the previous rule (Sec.2.1) for vowels may be rewritten in the following way.

3a. Manner of articulation (p.22)

10. vowel

vowel --> oral or nasal

oral --> i e æ a ɔ o u

nasal --> ã ẽ ǣ ă ɔ̃ ẽ̃ ũ

A vowel becomes nasalized [+ nasal] when it is followed by a nasal consonant, dropping the fully nasal consonant after it in the utterance. This feature is so widespread in ND that it may be taken as a normal rule. A nasalized vowel is never preceded or followed by any nasal consonants. There is a rule for vowel nasalization in SCB and ND. Nasalized vowels may be derived from an oral vowel which follows a nasal consonant.

In SCB, nasalization became common due to the deletion of nasal consonants after the vowel of the HB words.

Examples:

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[bindhi]	[bĩdhi]	(I) pierce
[boŋʂo]	[bãʂ]	bamboo
[ban]	[bã]	left

The same rule is also applicable to ND, where the nasal consonants of SCB are dropped after the vowel.

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[amar]	[ãr]	of mine
[tomar]	[tõ:r]	of yours

In other words, /a/ and /o/ are nasalized before a nasal segment, and when followed by a vowel + liquid /r/. The preceding consonantal segments do not change their values and are not affected. The feature rule is shown in the following:

Rule 20

$$[- \overset{V}{\text{nasal}}] \text{ ----} \rightarrow [+ \overset{V}{\text{nasal}}] \quad / \text{ --- } [m]$$

This rule includes only the dental nasal /n/ and excludes /ŋ/, as there is no evidence that the latter changes the quality of a vowel.

2.650.

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[panka]	[pãk]	mud
[banka]	[bãka]	curved
[candra]	[cãd]	moon

The examples show that the nasalization rule for ND (Rule 20) is also applicable to SCB as [a] becomes nasalized under the influence of the following nasal consonant which is then deleted.

Rule 20 (a)

$$[- \overset{V}{\text{nasal}}] \text{ ----} \rightarrow [+ \overset{V}{\text{nasal}}] \quad / \text{ --- } [n]$$

Rule 20 (a) shows the conversion of the oral vowel [a] to a nasal vowel when it is followed by a fully nasal consonant [n]. In case of any vowels other than [a], only the features for the vowels need be rewritten.

2.651. List of nasal vowels from SCB:

<u>oral vowels</u>	<u>Glosses</u>	<u>nasal vowels</u>	<u>Glosses</u>
1) /i/ vs /ĩ/			
[cire]	clubs	[cĩre]	rice, flattened and fried
[bidhi]	fate	[bĩdhi]	(I) pierce
11) /e/ vs /ẽ/			
[keu keu]	some	[kẽu kẽu]	whimpying or yelping of a dog
[keco]	(you) wash	[kẽco]	earthworm
111) /æ/ vs /ǣ/			
[Dhæ ra]	reel	[Dhǣ ra]	beating of a drum
iv) /a/ vs /a/			
[baš]	dwel	[bǣš]	bamboo
[ba]	or	[bǣ]	left
v) /o/ vs /õ/			
[dhoa]	wash	[dhõa]	smoke
[chora]	throw	[chõra]	boy
vi) /u/ vs /ũ/			
[kuri]	twenty	[kũri]	bud
[churi]	knife	[chũri]	pert girl

2.652.

In ND, as in SCB, all oral vowels have their nasal counterparts. However, the informants could not provide examples showing the distinction of oral and nasal vowels,

as shown in the previous list for SCB. A few examples of the nasal vowels of ND are shown here without their oral counterparts.

<u>examples</u>	<u>nasal vowels</u>	<u>Glosses</u>
[hĩra]	[ĩ]	low wooden seat
[Tĩa]	[ĩ]	money
[kæ̃ t̃ a]	[æ̃]	earthworm
[ʔãDu]	[ã]	knee
[kõ̃:la]	[õ̃]	banana
[kõ̃r]	[õ̃]	waist
[ThũT]	[ũ]	chin

2.7. Phonetic alterations of the consonants

2.70. Introductory remarks

Like vocalic segments, consonantal segments also undergo certain changes in different phonetic environments. Rule simplification and rule addition are equally responsible for modifications of the consonantal segments in the language. Some of these changes, such as assimilation, retroflexion and nonaspiration, are quite common in SCB and ND. The most common and frequent changes, which occur in the two languages are shown in the following sections.

2.71. Assimilation

Assimilation is a phonological process, in which the modification of a segment, brings about similarity with

another, neighbouring segment in a word. Two segments which tend to change are 'made to agree in the value assigned to one or more features' (Chomsky and Halle, 1968-350). Thus the value of agreement is often found in assimilation where unvoiced segments become voiced.

The most familiar assimilatory process in SCB is found in the gemination of consonants. This process shows both progressive and regressive assimilation. Though assimilation is a common phonetic feature in SCB and ND, progressive and regressive assimilation are more common than mutual assimilation.

One common feature is found both in progressive and regressive assimilation, the segment of ^{the} second syllable (e.g. [šɔd-ma], [dhar-ma]) always being a nasal segment. Examples of progressive assimilation are:

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[šadma]	[šɔddo]	recently
[padma]	[pɔddo]	lotus
[padma]	[pɔdda]	padma-name of a river
[atma]	[ãtta]	soul

Examples of regressive assimilation are :

[dharmo]	[dhɔmmo]	religion
[karmo]	[kɔmmo]	work; deed

Two feature rules are shown here to handle progressive and regressive assimilation in SCB.

Rule 21

[m] ----> [d] / [d] ----

Rule (21) is capable of handling a phonetic environment in progressive assimilation, where the phonetic value of a segment in a word is changed by the segment immediately preceding it, e.g. the nasal consonant [m] is changed to the dental consonant [d] which immediately precedes it in a word such as [padma] ----> [pɒddo]. The preceding and following vowels of the [-dm-] segment are always [ɔ] and [a].

Rule 22

[rm] ----> [m] / [m] ----

The above feature rule is applicable where regressive assimilation occurs in the following phonetic environment [-rm] --> [mm], as in [karma] ----> [kɒmmo]. This clearly shows that the first member is a non-nasal consonant, while the second segment is a nasal consonant. The non-nasal segment becomes a nasal segment in the process of regressive assimilatory change. The preceding and following vowels of [rm] segments are always [ɔ] and [o]. Examples:

<u>HB</u>	<u>SCB</u>	<u>Glosses</u>
[dharmo]	[dhɒmmo]	religion
[karmo]	[kɒmmo]	work; deed

2.8. Spirantization

Spirantization (i.e., where the SCB bilabial ([p] and palatals ([c] , [ch]) change their quality in ND and are replaced by three spirants ([f] , [z] and [š]) is not generally a common feature for SCB though it occurs in ND. Sometimes, for stylistic reasons and as a free phonetic variation, spirantization may occur. Spirants are marked in production by an unstopped breath stream, but the friction is not audible.

The following examples are given to show spirantization in ND.

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
a)		
[káj] ----	[kaz]	work
[moja] ----	[muza]	stockings
[šojjo] ----	[šozzo]	to endure
b)		
[gach] ----	[gaš]	tree
[chana] ----	[šana]	young bird
c)		
[phɔl] ----	[fɔl]	fruit
[pani] ----	[fani]	water
[pujo] ----	[fuza]	worship

Rule 23

(a) $[j] \text{ === } [z] \text{ /- } \begin{bmatrix} a \\ o \end{bmatrix} \#$

(b) $[ch] \text{ === } [\check{s}] \text{ /- } \# [a]$

(c) $\begin{bmatrix} p \\ ph \end{bmatrix} \text{ === } [f] \text{ /- } \begin{bmatrix} \# \text{ } \text{ } \\ \# a \\ \# u \end{bmatrix}$

(a) Rule (23a) explains the changing of the SCB $\begin{bmatrix} p \\ ph \end{bmatrix}$ to the ND $[f]$ when it occurs initially in a morpheme and is followed by $[o]$, $[a]$ or $[u]$.

(b) Rule (23b) is applicable to the change $[ch] \text{ === } [\check{s}]$, when this change occurs in two environments. In the first environment, the change occurs when $[ch]$ is distributed initially and is followed by $[a]$, and in the second when $[ch]$ occurs finally and is preceded by $[a]$.

(c) Rule (23c) handles phonetic changes such as the change $[j] \text{ === } [z]$. It indicates that when $[z]$ occurs finally it is always preceded by $[a]$, and if it occurs elsewhere, it may be preceded by either $[a]$ or $[o]$.

2.9. Nonaspiration

Aspiration is a common feature for stops in SCB, and an infrequent phenomenon in the ND. In SCB, unaspirated stops are followed by their aspirated counterparts, which

are followed immediately by the impulsive release of the aspirated stops before articulatory organs move to their rest positions. However, this feature of aspiration is not present for the ND stops, which tend to be non-aspirated as the occlusion is not sudden but rather slow, the immediate result being the release of the breath-stream through a constriction by the same organs. This causes the loss of aspiration for ND stops. The feature rules for non-aspiration is shown with examples here.

Rule 24

All aspirated stops become nonaspirated in ND except [ph], which changes into [f] \rightarrow [h]. The rewritten rule for ND could be shown in the following way.

[Asp] \rightarrow [Ø]

The following segments tend to lose their aspiration in ND.

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
i) [bh] \rightarrow [b]		
[bhuru]	[bui]	eyebrow
[bhaʃur]	[baiur]	elder brother of husband
ii) [ch] \rightarrow [tʃ]		
[bicha]	[biʃ a]	scorpion
[machi]	[maʃ i]	fly

iii) [ʃh] ===== [ɖʒ]

[ʃhol]	[ɖʒ ol]	gravy
[ʃhinuk]	[ɖʒ inuk]	oyster

iv) [Th] ===== [ʈ]

[maTh]	[maʈ]	field
[kaTh]	[kaʈ]	wood

v) [th] ===== [ʈ]

[tham]	[tam]	pillar
[pathoʔ]	[pator]	stone

vi) [dh] ===== [ɖ]

[dudh]	[ɖud]	milk
[gadha]	[gada]	donkey

vi) [kh] ===== [k]

[dokkhin]	[dokkin]	south
[pakhi]	[paki]	bird

vii) [gh] ===== [g]

[megh]	[meg]	cloud
[ghora]	[gora]	horse
[bagh]	[bag]	tiger

2.90.

In SCB, the tendency towards non-aspiration is not completely absent, though it is less frequent than in ND. Occasionally, some aspirated segments lose aspiration as cited in the following examples.

[dh]	--> [d]	[dudh]	--> [dud]	milk
[Th]	--> [T]	[kaTh]	--> [kaT]	wood
[gh]	--> [g]	[megh]	--> [meg]	cloud

Except for the above examples, the non-aspiration is less frequent among SCB speakers, as it may change the meaning of a morpheme. The following examples from SCB show the transfer of meaning of a word by the loss of aspiration.

[kaTh]	wood	[kaT]	to cut
[bagh]	tiger	[bag]	to get under control
[khan]	(you) eat	[kan]	ear
[thaka]	of staying	[taka]	(you) look

2.10. Voicing

There are two voicing rules for ND, where the unvoiced retroflexes [T] and [Th] become [D] and the unvoiced velar [k] changes to [g]. One reason is that both the voiced and voiceless sounds in SCB have explicit meaning, which ceases after the permutation of any unvoiced sounds for voiced sounds. For example, [T] of [Taka] 'money', is not permutable for [D] of [Daka] 'to call', as it changes the meaning of an individual morpheme.

Rule 25

$$\begin{bmatrix} T \\ Th \end{bmatrix} \text{-----} \rightarrow [D] \begin{array}{l} / [o-i] \# \\ [a-e] \# \end{array}$$

Rule (25) clearly states that $\begin{bmatrix} T \\ T_h \end{bmatrix}$ changes into [D] in two environments: if it occurs finally, it is preceded by [o] and elsewhere is preceded by [a] and followed by either [i] or [e].

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[Th ^h ōT] =====	[T ^h ōD]	lips
[boTi] =====	[boDi]	fish-knife
[baTi] =====	[baDi]	bowl
[kaThi] =====	[kaDi]	stick
[oThe] =====	[oDe]	(he/she) rises

Rule 26

[k] === [g] / - $\begin{bmatrix} \text{ɔ} \\ e \\ i \end{bmatrix}$ #

Rule (26) applies to the change [k] === [g], a type of change which is very common in ND, in the following two environments: (a) in final position [g] is preceded by either [e] or [i]; and (b) it is preceded elsewhere by [ɔ]. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[šɔkol]	[həgɔl]	all
[šɔkal]	[həgal]	morning

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[ɲek]	[ɲneg]	many
[manik]	[manig]	jewel

2.11. Nonpalatalization

Whereas the palatal sounds of SCB tend to be uttered as true palatal sounds, most of the original palatals in ND have altered their quality and become non-palatalized. Three different feature rules are possible for the palatal sounds of ND, where [c], [ch] and [j] change into [tʃ], [ʃ] and [dʒ]. These changes are systematic in ND and occur in any position of the utterances. The three feature rules which are applicable to the ND palatal sounds are shown here.

Rule 27

$$[c] \text{ ---- } [tʃ] \text{ / } \left[\begin{array}{c} a \\ \tilde{a} \\ ɔ \\ o \\ i \end{array} \right]$$

Rule (27) is applicable to the SCB [c], which corresponds to the ND [tʃ]. If [c] occurs finally, it is preceded by a nasal vowel [ã]. In initial and medial positions [c] may be followed and preceded by [a], [ɔ], [o] or [i].

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[cal] ====	[t̥ al]	rice
[maca] ====	[mat̥ a]	wooden platform
[pãc] ====	[pãt̥]	five
[cɔl] ====	[t̥ɔ l]	let us go
[cokh] ====	[t̥ ok]	eye
[cil] ====	[t̥ il]	hawk

Rule 28

$$[ch] \text{ ==== } [\check{s}] \text{ / } \# - \begin{bmatrix} a \\ \text{ɔ} \\ o \end{bmatrix}$$

Rule (28) applies to the SCB [ch], which corresponds to the ND [^ǰs], when it occurs initially and is followed by [a], [ɔ], or [o].

Feature rule (28) is common in the ND, where the SCB [ch] is replaced by [š], which is also a palatal sound. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[chana] ====	[šana]	young bird
[chobi] ====	[šobi]	picture
[chɔddo] ===	[šɔddɔ]	hidden; in disguise
[chɔe] ====	[šɔe]	six
[chobol] ====	[šobol]	sudden bite (of a snake)

Rule 29

$$[j] \text{ ---- } [d_3] / \# \rightarrow \begin{bmatrix} a \\ o \end{bmatrix}$$

Rule (29) explains that the SCB palatal [j] corresponds to the ND alveolar [d₃] ,as in the latter dialect the former sound does not exist. [j] always occurs initially and is followed by either [a] or [o] .

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[Jan] ----	[d ₃ an]	(you) go
[Jodi] ----	[d ₃ odi]	if
[Jontu] ----	[d ₃ ontu]	animal
[Jattra] ----	[d ₃ attru]	opera

2.110.

Rule 30

Rule (30) is applicable to [h] in SCB, which corresponds to [ʔ] in the ND. The feature rule is shown below.

$$[h] \text{ ---- } [ʔ] / \# - \begin{bmatrix} i \\ a \\ ɔ \\ o \end{bmatrix}$$

Rule (30) clearly states that the [h] ---- [ʔ] conversion is predictable as it always occurs initially and is followed by [i] , [a] , [ɔ] or [o] .

Examples:

<u>HB</u>	<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[hoibe]	[hɔbe] ====	[ʔoibo]	will be
[hasta]	[hat] zaz	[ʔa:t]	hand
[hit]	... ====	[ʔi:t]	good
[hiŋša]	[hiŋše] ====	[ʔiŋša]	malice
[hae]	[hɔe] ====	[ʔɔe]	becomes

2.111.

Rule (31) is applicable to the two velar segments $[k, k^h]$ of ND, which change into $[x]$ and $[x^h]$, $[x^h]$ is not as fully aspirated as the SCB $[kh]$ or the other aspirated stops. $[k^h]$ and $[x^h]$ are partially aspirated.

The following conversion rule will handle the phonetic change of $[k, k^h]$ to $[x, x^h]$.

Rule 31

$$[k] \text{ ---- } [x] / \# - \begin{bmatrix} \text{ɔ} \\ a \end{bmatrix}$$

Rule (31) applies to the SCB $[k]$, which corresponds to the ND $[x]$, in two phonetic environments: (a) if $[k]$ occurs initially it is followed by $[\text{ɔ}]$, and by $[a]$.

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
[kɔtta]	[xɔtta]	master; head of the family
[kal]	[xa:l]	to-morrow

Rule (31b)

$$[kh] ===== [x^h] / \# - \begin{bmatrix} a \\ \text{ɔ} \\ o \end{bmatrix}$$

Rule (31b) explains that the SCB [kh] corresponds to the ND [x^h] in three environments. When [kh] occurs initially it is followed by either [a], [ɔ], or [o]. In a medial position it is only followed by [a].

Examples:

<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[khabo]	====	[xaɪum]	(I) shall eat
[dæ khae]	====	[dɛx ^h ae]	(he/she) shows
[khoti]	====	[x ^h oti]	loss
[khɔma]	====	[x ^h ɔma]	pardon

2.12. Zero modification

In the ND, some consonantal sounds of HB and SCB, both in initial and other positions, are given zero value. Among these consonants are the two aspirated sounds (the bilabial [ph] and the velar [kh]) and the glottal [h]. This feature is also applicable to SCB, where the glottal [h] found in HB words is deleted. One common phonetic environment that is noticeable for zero modification is that [ph], [kh] and [h] always occur intervocally.

Feature rules for the above zero modification are shown below.

Rule (32)

$[ph] \quad \text{----} \quad [\emptyset] \quad / \quad [u-a]$

Rule (32) states that the $[ph]$ of SCB becomes zero in ND, if it is preceded by and followed by $[u]$ and $[a]$.

Example:

<u>SCB</u>		<u>ND</u>	<u>Gloss</u>
[tuphan]	----	[tuan]	storm

Rule (33)

$[h] \quad \text{----} \quad [\emptyset] \quad / \quad \begin{bmatrix} \text{ɔ} - e \\ a - o \\ o - i \end{bmatrix}$

Rule (33) indicates three phonetic environments where $[h]$ becomes zero. Except in the $[a-o]$ environment, i.e., in case of both $[\text{ɔ}-e]$ and $[o-i]$ environments, it clearly shows that it is preceded by back vowels $[\text{ɔ}]$ and $[o]$ and is followed by front vowels $[i]$ and $[e]$.

Examples:

<u>HB</u>	<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[kəhe]	[kɤe / bɤle]	----	[kɤe]	(he) speaks
[šahaš]	[šahoš]	----	[šaoš]	courage
[mohit]	[mohit]	----	[moit]	charmed

Rule (34)

[kh] ===== [ʁ] / [ɔ-o]

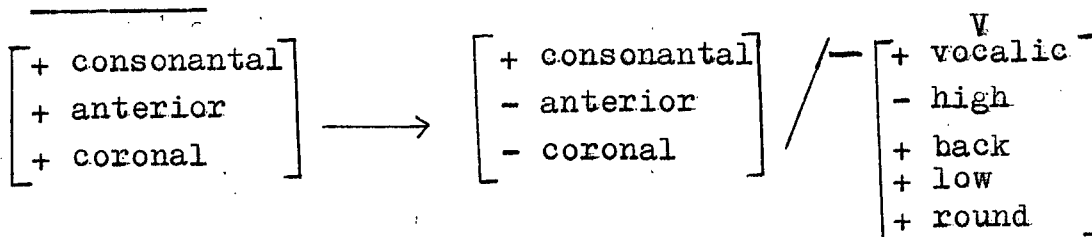
Rule (34) explains the zero modification of the SCB [kh] to the ND [ʁ] in the phonetic environment when [kh] occurs intervocally, preceded by [ɔ] and followed by [o] .

Examples:

<u>HB</u>	<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[ɛkhon]	[æ khon] ===		[ɔon]	now
[tɔkhon]	[tɔkhon] ===		[tɔon]	then

2.13. Retroflexion

In ND, the dental [d] sometimes becomes the retroflex [ɖ]. This change is quite simple from a phonetic point of view, as in ND (and SCB) the articulatory points for the dentals are close to those of the retroflex sounds. The result is that during the production of these sounds the tongue retracts to the back of the mouth cavity which easily changes the quality of a sound.

Rule (35)

Examples:

<u>HB</u>	<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[nɔrendra]	[nɔrendrɔ] =====		[nɔrɔNDɔ]	Narendra-a proper name

<u>HB</u>	<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[candra]	[cəndro] === [cād]		[tɔ NDɔ]	moon
[gajendra]	[gəjendro] ===		[gɔɔj eNDɔ]	Gajendra-a proper name

The above change is restricted to learned words derived from Sanskrit.

2.14. Glottalization

The glottalization feature is quite common in ND, and at least three different varieties of sounds change to glottal sounds. The following sounds in the dialect, all of which are non-glottal stops, always become glottal fricatives, the bilabial [ph] --> [f] --> [h] and the sibilant [š] --- [h]. Two separate feature rules are indicated for the modification of these sounds.

Rule (36)

$$[\check{s}] \text{ --- } [h] \text{ / } \# \text{ --- } \begin{bmatrix} e \\ a \\ o \end{bmatrix}$$

[š] changes into [h] when it occurs initially and is followed by either [e], [a] or [o].

Examples:

<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[šorše]	====	[horša]	mustard seed
[šala]	====	[hala]	brother-in-law
[šagor]	====	[haor]	ocean

<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[šagor] ==		[haor]	ocean
[šošur] ==		[hour]	father-in-law
[šekhae] ==		[hikae]	teaches

Rule (37)

$$[ph] == [f] \longrightarrow [h] \quad / \quad \# \quad \begin{bmatrix} \text{ĩ} \\ \text{ɛ} \\ \text{o} \end{bmatrix}$$

Rule (37) is applicable to the SCB [ph] which corresponds to the ND [f], the latter changing to [h]. There is a common tendency in ND to change its bilabials into fricatives (e.g., [pani] 'water' \longrightarrow [fani]; [pata] 'leaf' \longrightarrow [fata]). The above rule shows three phonetic environments for the change [ph] \longrightarrow [f] \longrightarrow [h], i.e., it always occurs initially and is followed by [ĩ], [ɛ], or [o].

Examples:

<u>SCB</u>		<u>ND</u>	<u>Glosses</u>
[phĩre] ==		[fĩra] \rightarrow [hĩra]	low wooden seat
[phorin] ==		[forin] \rightarrow [horin]	grasshopper
[phaen] ==		[fen] \rightarrow [hen]	hot water of cooked rice

Chapter 111

3. Morphology3.0. Introductory remarks

The study of morphology includes both phonology and syntax, which are directly associated with the composition and distribution of morphological features in a language. In transformational syntax, a terminal string (the last string of the derivational tree diagram) is important for the study of such morphemes as base words, inflectional affixes and derivational affixes. Most sentences which have an NP + VP structure, contains these three different classes of morphemes. The following is a short discussion on the different classes and the natures of SCB and ND morphemes.

3.1. Free and Bound morphemes

The morphemes of SCB and ND fall into two classes: free morphemes and bound morphemes. Bound morphemes do not have independent meaning, but rather obtain their meaning through attachment to other morphemes which have independent meaning. Examples, [gulo] :s, as used in [meegulo] 'girls'; [-ra] :s in [chelera] 'boys'. Free morphemes, on the other hand, can be used without combination as they have independent meaning. Examples are [maia] 'girl', [dokkin] 'south', [bādr] 'monkey'.

3.2. Affixes

The usage of the term affix, a common term in linguistics, includes both prefixes and suffixes. They may be classified into inflectional affixes and derivational affixes on the basis of their functional roles when attached to morphemes. Inflectional affixes are used as a marker of plurals, cases, tenses, and degrees. Affixes have limited distributional role for degrees in SCB and ND, as few inflectional affixes occur in both dialects. Inflections of nouns in both dialects are for case and number, while verbs are inflected for tense and adjectives for degree.

Derivational affixes change one class of morphemes into another. They also occur as suffixes with the morphemes, whereas inflectional affixes are used either as prefixes or suffixes in SCB and ND.

3.3. Examples of the prefixes used in SCB

In traditional grammars of Bengali, thirteen prefixes are listed (Shahidullah, 1967-117). Not all of them are used in SCB. Among the thirteen suffixes [la-] and [phi-] are of foreign origin and [bɔ-] and [ɔn-] are not used with a large number of morphemes. The remaining prefixes are listed here with examples.

- i), {be-} used to show opposition {behaa} {beṣamal}
- ii), {gor-} absence of something {gormil} {gorhajir}

- iii) {ṇa-} absence of something {ṇador} {ṇabriṣṭi}
 iv) {a-} " {akal} {apod}
 v) {ha-} " {habhate}
 vi) {na-} " {nabalok}
 vii) {ni-} " {nikhūt} {nirlobh}
 viii) {pati-} small {patilebu}
 ix) {ram-} big {ramda} {ramchagol}

3.4. Suffixes in SCB

Suffixes in SCB and ND are used as markers for grammatical categories, such as number, tense, person, case, and degree. They may be represented in the following way to cover all aspects for which they are used (Chomsky and Halle, 1968-101).

- 1) [pl # [sg# chele #] sg + gulo #] pl number -->
 2) [f [#pt# [pr#bol+i#] pr+echilam # pt #] f+bo] tense -->
 3) [3p # 2p # [1p +e] # 2p # 3p] person ---->
 4) [#poss#Abl # Inst # Acc # [Nom # pagol + e]
 Nom # +ke Acc # +die # Inst # +theke # Abl # +er #] poss
 case -->
 5) [sup # [comp # sundor +toro #] comp + tomo # sup]
 degree -->

Different suffixes which are used for number, tense, person and case in SCB, are represented in the above examples. Fully illustrated examples are given here

to show the suffixes used in SCB.

3.5.Examples of the suffixes in SCB

<u>suffixes</u>	<u>markers</u>	<u>examples</u>	<u>Glosses</u>
{-gulo}	(1) plural	{chelegulo}	boys
		{boigulo}	books
{-ra}		{burira}	women
	(2) tenses		
{-i}	present	{boli}	(I) speak
{-e}		{bole}	(he) speaks
{-chilam}	past	{bolachilam}	(I) said
{-bo}	future	{bolbo}	(I) will say
	(3) person		
{-i}	first	{kori}	(I) do
{-e}	second	{kore}	(you) do
	(common)		
{-iś}	second	{koriś}	"
	(non-honorific)		
{-en}	second	{koren}	"
	(honorific)		
{-e}	third	{kore}	(he) does
	(non-honorific)		
{-en}	third	{koren}	"
	(honorific)		
	(4) case		
{-e}	nominative	{pagole}	of mad

<u>suffixes</u>	<u>markers</u>	<u>Examples</u>	<u>Glosses</u>
{-ke}	accusative	{pagolke}	of the mad
{die}	instrumental	{pagol die}	with the mad
{theke}	ablative	{pagol theke}	from the mad
{-er}	possessive	{pagoler}	of mad's
(5) degree			
{-tɔro}	comparative	{šundortɔro}	prettier
{-tomo}	superlative	{šundortomo}	prettiest

In the grammatical use of person, there are three forms in the second person and two forms in the third person. Both in second and third persons, honorific marking suffixes are identical. In grammatical degree, the suffixes shown in section (5), are not colloquial in the true sense, as, in most cases, comparative and superlative degrees are indicated by simple adjectives rather than suffixes, e.g., in the following : {še besi šundor} 'she is prettier', {še šɔbcee beši šundor} 'she is the prettiest', in SCB both {beši} 'excess' and {šɔbcee beši} are simple adjectives, which are used for the comparative ({beši} - one adjective) and the superlative degrees ({šɔbcee beši} - two adjectives {šɔb} 'all', {cee} 'among', {beši} 'excess'). This construction, rather than the use of the suffixes {-tɔro} and {-tomo} which are closer to Sanskrit forms and used primarily in HB, is common in SCB.

3.6. Suffixes used in ND

As in SCB, suffixes have functional role in ND and they are widely used to mark different grammatical categories. A total survey of the ND suffixes is made here for the purpose of comparison with those of SCB.

The suffixes which are used for marking different grammatical categories in the ND are described here with examples.

<u>suffixes</u>	<u>markers</u>	<u>examples</u>	<u>Glosses</u>
{-ra}	(1) plural		
{-ra}	"	{manušra}	men
{-gula}	"	{gorugula}	cows
	(2) tense		
{-i}	present	{hari}	(I) can
{-am}	past	{hartam}	(I) could
{-um}	future	{harum}	(I) will be able
	(3) person (+ number (singular)+tense (present))		
{-i}	first	{hari}	(I) can
{-e}	second	{haro}	(you) can
	(common)		
{-oš}	(non-honorific)		
		{haroš}	"
{-en}	(honorific)	{haren}	"
{-e}	third	{hare}	(he) can
	(common)		
{-en}	(honorific)	{haren}	"

<u>suffixes</u>	<u>markers</u>	<u>examples</u>	<u>Glosses</u>
(4) case			
{-e}	Nom	{bane hute}	father and son
{-re}	Acc	{k ^h aledre Dak}	call Khaled
{dia}	Inst	{t _ɟ uri dia kaDo }	cut it with a knife
{-re}	Dat	{hoirere k ^h arat dao}	Give alms to the beggar
{tore}	Abl	{gat _ɟ et tore hol hore}	The fruit falls from the tree
{-e}	Loc	{huire mat _ɟ aše}	There are fish in the pond

(5) Degree¹

3.7.

The suffixes are not abundant in number in comparison to SCB, where they play an important linguistic role in building new morphemes. A brief survey of the suffixes which are commonly used in ND, is made here with examples.

¹ One point which could be mentioned here is that in ND no suffixes are used to mark degree. To compensate for the vacuum left, two simple adverbs ({beš}, {k^hub}) are used before adjectives to distinguish between comparative and superlative degrees. Examples: {he beš hundor} 'she is prettier'; {he k^hub hundor} 'she is prettiest'.

<u>suffixes</u>	<u>examples</u>	<u>Glosses</u>
i) {-ami}	{t _ɟ agal} -- {t _ɟ aglami}	stupid-stupidity
ii) {-ani}	{d _ʒ al} -- {d _ʒ alani}	flame-fuel
iii) {-i}	{t _ɟ ur} -- {t _ɟ uri}	thief-steal
iv) {-la}	{kam} -- {kamla}	work-worker
vi) {-ua}	{ba} -- {baua}	left-left-handed

Besides the regular suffixes, some foreign suffixes are also used in ND. These are predominantly used by Muslim speakers in the dialect area, and therefore seem to be influences from Arabic and Persian. Some of them are listed here.

Foreign suffixes used in ND

<u>suffixes</u>	<u>examples</u>	<u>Glosses</u>
i) {-xan}	{dar-} / {darvan}	gate-gate-keeper
ii) {-ari}	{bau-} / {buari}	Babu-the ways of a Babu (Hindu gentleman)
iii) {-k ^h ana}	{boiDɔk-} / {boiDɔkk ^h ana}	sitting-sitting room
iv) {-gɔr}	{d _ʒ adu} / {d _ʒ adugɔr}	magic-magician
v) {-giri}	{daroga-} / {darogagiri}	police sub-inspector- the work of a police sub-inspector

3.8. Derivational morphemes

In addition to inflectional affixes, a large number of derivational affixes are used in SCB. Derivational affixes are one of the main sources of building new lexical items in SCB. They are important for their inflectional role as they change one word class to another. For example, {bondhu} 'friend' in SCB is a common noun, which changes its class with the derivational suffix {-tto} into {bondhutto} 'friendship', an abstract noun. However, they have a very minor role in ND and are not attached to the lexicon to change their grammatical categories. Sometimes, instead of adding a derivational affixes in the lexicon in ND, possessive markers are used to change meaning in a sentence. For example, an SCB sentence such as {akaš šonali} 'the sky is golden', appears in ND as {akašDa honar moto} 'the sky looks like gold'. This tendency of the speakers of the dialect has restricted the use of derivational affixes in ND. Derivational affixes are discussed here to show their role in the different categories of word classes in SCB.

3.9. Noun-forming morphemes

Noun-forming morphemes are abundant in SCB. The most common types of such morphemes, which are widely used in the language, are shown here with base forms.

3.90. List of the Noun-forming morphemes in SCB

<u>suffixes</u>	<u>examples</u>	<u>Glosses</u>
i) {-dan}	{pik} --> {pikdan}	spit; spittoon
ii) {-pɔna}	{duronɔ} --> {duronɔpɔna}	naughty; naughtiness
iii) {-ali}	{ghɔTok} --> {ghɔTkali}	matchmaker; matchmaking
iv) {-ana}	{ʃaheb} --> {ʃahebana}	European; European style of living
v) {-e}	{mɔT} --> {mɔTe}	luggage; porter
vi) {-i}	{cor} --> {cɔri}	thief; steal
vii) {-a}	{hat} --> {hata}	hand; sleeves
viii) {-oala}	{cæ nɔcɔr} --> {cæ nɔcɔroala}	fried gram salted and spiced; seller of fried gram
ix) {-dar}	{dɔkan} --> {dɔkandar}	shop; shopkeeper
x) {-giri}	{mɔTe} --> {mɔTegiri}	porter; job of a porter
xi) {-al}	{laThi} --> {laThial}	stick; stick-carrier
xii) {-mi}	{chele} --> {chelemi}	child; childishness
xiii) {-aci}	{bæ ŋ} --> {bæ ŋaci}	frog; tadpole
xiv) {-une}	{ʃap} --> {ʃapure}	snake; snake-charmer
xv) {-ti}	{cak} --> {cakti}	wheel; small wheel

3.91. Adjective-forming morphemes

It has already been mentioned that by adding derivational morphemes, one word class may be changed into another. In the following sections, nouns are shown, where the nouns change into adjectives.

<u>suffixes</u>	<u>examples</u>	<u>FGlosses</u>
i) {-i}	{deš} --> {deši}	home; homemade
ii) {-e}	{pathor} --> {pathure}	stone; stony
iii) {-o}	{maTh} --> {meTho}	field; growing a field
iv) {-ali}	{šona} --> {šonali}	gold; golden
v) {-u}	{Dhal} --> {Dhalu}	slope; sloping
vi) {-a}	{nun} --> {nonta}	salt; saltish
vii) {-alo}	{jomok} --> {jomkalo}	pomp; pompous
viii) {-uk}	{peT} --> {peTuk}	belly; greedy
ix) {-la}	{megh} --> {meghla}	cloud; cloudy
x) {-ce}	{lal} --> {lalce}	red; reddish
xi) {-to}	{mama} --> {mamato}	maternal uncle; descending from a maternal uncle

3.10.

In the following sections, the ND morphology is described and is mapped to show the distinction of the morphological pattern of SCB. Several problems are shown with different morphological rules. Morphemes take various inflectional roles such as case, number and person when some other suffixes are added to them.

3.100. Morphemic combinations

SCB and ND morphemes may combine with one or more stretches of morphemes. However, combinations do not exceed three morphemes. When two or three stretches of morphemes combine, the second and the third stretches of morphemes are used as morphemic suffixes. There is no evidence in SCB or ND of morphemes which combine with more than three stretches of morphemes. If there are any, they are either Sanskritic or HB lexical items, used due to the absence of any such morphemes in the language.

The following examples from SCB and ND show the three possible formations of morphemic combinations.

Examples from SCB:

<u>examples</u>	<u>Glosses</u>	<u>number of morphemes</u>
{kal}	to-morrow	1
{kal-ke}	to-morrow (to)	2
{chele-gulo}	boys	2
{šundor}	pretty	1
{šundor-i}	pretty girl	2
{šundor-i-ra}	pretty girls	3
{Dhakate-i}	at Dacca	3
	(Dacca+at+emphatic suffix)	
{Dhaka-te}	at Dacca	2

Examples from ND:

<u>examples</u>	<u>Glosses</u>	<u>number of morphemes</u>
{ huit-lo }	(he) slept	2
{ koitt-am-e }	(I) want to do	3
{ nɔ }	not	1
{ ʔi }	I	1
{ he-ten-er }	of him (hon.)	3
{ bait-ton }	from home	2

3.11. The Morphemic Structure (MS) Rules

Halle (1959) points out that the phonological component of transformational grammar consists of two sets of rules : phonological rules and morphemic structure rules.

The morphemic structure (MS) rules explain the combination of features in individual morphemes. They are applied here to classify morphemes along with the morpheme class.

Halle has also established a system for the application of the MS rules. Any utterance which is composed only of vowel segments is called a chain. Any utterance which is composed of consonants only, is called a cluster. V stands for any vowel, C for any consonant, R for any liquid and j for any glide.

3.110. Morphemic patterns of SCB and ND

The smallest morpheme/^{structure}in SCB and ND consists of two sounds and the largest of eight sounds. In both SCB and ND, the initial sound of a morpheme may be a vowel or a consonant, and it is followed either by a consonant or a vowel (VC ... or CV ...). (If the morpheme is composed of a vowel and a consonant, it may be called a vocalic. If the first segment of a morpheme is a consonant and it is followed by a vowel, it may be called a consonantal.) The only exceptions are consonant clusters and diphthongs, where the pattern becomes either CC or VV. As diphthongs always combine two vowels, they may be regarded as a chain. For example:

{[b]-oi}	'book'	{[k]-oi}	'where'
{[m]-oi}	'ladder'	{[b]-ou}	'wife'
{[n]-ei}	'is not'	{[b]-ou-[ni]}	'first customer of the day'
{[ʃ]-iu-[li]}	'a kind of yellow flower'		

The most common patterns in SCB are :VC, CV, CVC or VCV.

Examples are given here to show the eight segmental patterns of the SCB morpheme structures.

<u>MS</u>	<u>Examples</u>	<u>Glosses</u>
VC	{aɪ}	to-day
CV	{ki}	what
CVR	{kal}	to-morrow

<u>MS</u>	<u>examples</u>	<u>Glosses</u>
CVRV	{chele}	boy
CVCV	{kana}	blind
CVCVR	{kanar}	of the blind
CVRCV	{holdi}	turmeric
CVRVC	{moric}	red pepper
CVCCVR	{khuccor}	mule
CVCVCV	{bichana}	bed
CVVCVRV	{diechilo}	(he) gave
CVCVCCVR	{somotkar}	beautiful
CVCCVCCV	{bondhutto}	friendship

3.111.

In ND, morphemic patterns are quite complicated and they may be built in nine ways. The most common patterns of morphemic formations in ND, which are similar to those of SCB, are CVCV and CVV.

The following examples are given to show the MS rules for the segmental patterns of ND morpheme structures.

<u>MS</u>	<u>examples</u>	<u>Glosses</u>
CVR	{tj ar}	four
CVCVRVV	{bɔtj oria}	of years
CVV	{moi}	ladder
CVVCRV	{haiʃla}	(you) laughed
CVCCV	{hɔnge}	with

<u>MS</u>	<u>examples</u>	<u>Glosses</u>
CVRCVCVC	{pirt ^h imir}	of earth
CVCVVCVR	{bud ₃ a ₃ ner}	to make him understand
CVVCVC	{t ₃ aitam}	(I) could ask
VCCV	{amne}	of you (hon)

3.112.

The following rules evaluate the individual segments of SCB and ND morphemes.

3.1120. Rules for SCB

Rule 1 . If the initial segment is consonantal, the next segment segment is vocalic.

Rule 2 . If the initial segment is vocalic, the next segment is consonantal.

Rule 3 . If the first two segments are consonantal and vocalic, the next segmental is consonantal.

Rule 4 . If the first two segments are vocalic and consonantal, the third segment is vocalic.

Rule 5 , If the first and the third segments are consonantal then the second and fourth segments are vocalic.

Rule 6 . If the first and third segments are vocalic, then the second and fourth segments are consonantal.

Rule 7 . If there is any juncture after the consonantal segment, then the next segment is consonantal.

Rule 8 . If there is any juncture after the vocalic segment,

then the next segment is also a vocalic.

Rule 9 . If there are two junctures in a word after the consonants, the next segments are consonantal.

Rule 10. If there is any juncture after a consonantal segment, the preceding and following segments are vocalic.

Rule 11. If there are any consonant clusters in a word they are preceded and followed by vocalic segments.

Rule 12. If there are two consonant clusters in a word, they are preceded and followed by vocalic segments.

Rule 13. If there are any VV sequences, the preceding and following segments are consonantal.

In examples such as {bondhutto} 'friendship', {diechile} 'you gave', {aj} 'to-day', {bichana} 'bed', the consonantal vs nonconsonantal and vocalic vs nonvocalic features may be used to show the MS rules of the individual segments which compose morphemes.

	b o n a h u t t o d i e c h i l e b i c h a n a																							
vocalic	-	+	-	-	+	-	-	+	-	+	+	-	+	+	+	-	+	-	+	-	+			
consonantal	+	-	+	+	-	+	+	-	+	-	-	+	-	+	-	+	-	+	-	+	-			

3.113.

The following rules evaluate the individual segments of the ND morphemes. The same system is being followed here which was applied in the evaluation of the SCB morphemes.

Rule 1. If the initial segment is consonantal, the next segment is vocalic.

Rule 2. If the initial segment is vocalic, the next segment is consonantal.

Rule 3. If two segments are vocalic, the preceding and following segments are consonantal.

Rule 4. If two segments are consonantal, the preceding and following are vocalic.

Rule 4a. In the case of two consonantal segments occurring sequentially, there is another possibility where they may be preceded by two vocalic segments, but may also be followed by two vocalic segments.

Rule 5. If an initial segment is /i/, then the next two segments are always consonantal.

Rule 6. If the morpheme is composed of six segments, there is at least one CC or VV occurrence.

Rule 6a. If the last segment is vocalic, then it is preceded by a consonantal segment.

Rule 6b. If the last segment is vocalic, then it is preceded by a CC sequence.

Rule 6c. If the last segment is a vocalic, and if it is

pr preceded by a CC sequence, the initial segment is followed by a VV sequence.

Rule 6d. If the last segment is not preceded by a CC sequence, the third segment from the end is vocalic and the pattern becomes CVCVCV.

Rule 6e. If the last segment is consonantal, it is preceded by consonantal segment.

Rule 7. If the morpheme is composed of seven segments, the first segment is always consonantal and the last segment is always vocalic.

Rule 7a. If the last segment is a vocalic, then the third and fourth segments from the beginning are consonantal and vocalic respectively.

Rule 7b. If the last vocalic segment is preceded by a vocalic, then the third segment from the end is a consonantal. If it is preceded by a consonantal, the third segment from the end is also a vocalic.

Rule 7c. If the first and last segments are consonantal, they are followed and preceded by vocalics.

Rule 7d. If the third segment from the beginning of the seven-segment morpheme is vocalic, the third segment from the end is consonantal and is followed by another consonantal segment. Therefore, the second segment is also vocalic and, in combination with the third segment, makes up a VV sequence, and the

fourth and fifth consonantal segments make up a CC sequence.

Rule 8. If the morpheme is composed of eight segments the first is always a consonantal, which is followed by a vowel, then by a consonant.

Rule 8a. If the last segment is consonantal, it is preceded a vocalic, and a consonantal, and then by a vocalic segment.

Rule 8b. The fourth segment may be a vocalic or a consonantal segment.

Chapter iv

4. Syntax4.0. Noun-Phrase Rules4.1. Discussion

The present discussion is included for the purpose of parsing the NP of SCB and ND. SCB and ND have the following rule for NP.

$$\text{NP} \longrightarrow \left\{ \begin{array}{l} \text{Noun} \\ \text{Pronoun} \end{array} \right\} + (\text{Adj}) + (\text{Noun}) \quad (38)$$

The NP can be rewritten in the following two ways, a) noun and b) pronoun. The adjective and the noun in parenthesis are optional. Sentences like (1) {motin p̄re} 'Matin reads', (2) {šamsun šoe} 'Shamsun lies down', or (3) {še bhalo chēle} 'he is a good boy', (4) {tarā kharāp lok} 'they are bad people', can be analysed using rule (38). Phrase structure rules for sentences 1 and 2:

NP \longrightarrow Noun

Noun \longrightarrow {motin, šamsun}

VP \longrightarrow Verb

Verb \longrightarrow {p̄re, šoe}

Phrase Structure rules for sentences 3 and 4:

NP \longrightarrow Pronoun + (Adj) + (Noun)

Pron ----> {še , tara}

Adj ----> {bhalo , kharap}

Noun ----> {chele , lok}

4.2. Nouns in NP position

Nouns may be grouped into different classes both in SCB and ND. All nouns can occur in the NP position, and rule (38) therefore needs to be extended to include this feature. The extended rule is given below for the nouns which are used in the NP position.

Rule (39)

$$\text{Noun} \text{ ----> } (\text{Pre}) + \left\{ \begin{array}{l} \text{count} \\ \text{noncount} \\ \text{proper noun} \end{array} \right\}$$

Following rule (39), the noun can be rewritten with a count noun, a non-count noun, a proper noun or with an optional pre-noun. 'Prenoun' is used here for those morphemes which precede a noun.

Phrase structure for rule (39):

prenoun ----> {oi} 'that', {šeī} 'that' (SCB)

proper nouns ----> {ḍhaka} 'Dacca', {bhāi} 'brother', (SCB)

noncount nouns ----> {cul} 'hair', {pani} 'water' (SCB)

{təl} 'oil', {bui} 'eye-brow' (ND)

Count nouns ----> animate

inanimate

animate nouns ----> {šeal} 'jackal', {manuš} 'man' (SCB)

{bašur} 'calf', {hola} 'boy' (ND)

inanimate nouns ----> {pata} 'leaf', {šondorjo} 'beauty' (SCB)
 {turi} 'knife' (ND)

The division of count nouns into animate and inanimate nouns is important as they have a different inflectional nature.

For example, sentence such as {bulu bhablo} 'Bulu thought' is possible, producing strings for animate noun in VP's, but not sentencesuch as *{cear bhablo} 'the chair thought'.

Rule (39 a)

Noun ----> (prenoun) + count $\left\{ \begin{array}{l} \text{animate} \\ \text{inanimate} \end{array} \right\} + \text{prt}$

Rule (39a) is capable of producing strings such as the following.

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{sei bādorTa}	{ji bandorDa}	that monkey
{oi cheleTa}	{ji holaDa}	that boy
{oi pataTa}	{ji fataDa}	that leaf
{ki šondorjo}	..... 1	What a beauty!

Particles are always added to nouns in SCB and ND where the subject requires specific definition. For example, expressions such as {oi chele-Ta} 'that boy', differ from those such as {oi chele} 'that boy', in that the prenoun {oi} 'that' does not mark a distinction in the

1 ND lacks the expression as shown for SCB.

subject, but the particle {-Ta} does, defining the subject specifically.

Rule (39 b)

Noun ----> (prenoun) + count

This is a simple rule for producing strings in SCB and ND, where pre-nouns precede count nouns. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{oi cearTa šundor}	{oi t̥ earDa hundor}	That chair is beautiful
{oi bališTa dao }	{oi bališDa d̥eo}	Give me that pillow

Rule (39 c)

Noun ----> (prenoun) + proper noun

This is identical to Rule 39b, where pre-nouns precede the proper nouns. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{Dhaka baŋladešer rajdhani}	{Dæ ha baŋladæ šer rajdani}	Dacca is the capital of Bangladesh
{šomuddro pari dite bhalo lage}	{haor par oite balobaši}	I like to cross the ocean

4.3. Pronouns in NP position

It was shown earlier that both the nouns and the pronouns in SCB and ND are used as a NP in a sentence. The pronouns are easily substitutable for the nouns and they can qualify as NPs. However, although pronouns may

occur in place of nouns, they are never preceded by a prenoun.

Rule (40)

NP \longrightarrow $\left\{ \begin{array}{l} \text{Noun} \\ \text{Pronoun} \end{array} \right\}$

Pronoun ---> { personal
indefinite
relative
demonstrative } + (number) + (person)

Number and person are shown as optional in Rule (40), as the pronouns are inflected for them. The personal pronouns also vary in second and third persons, as they differ in honorific and nonhonorific forms. A partial list is given here to indicate the four different forms of pronouns found in SCB and ND.

personal pronouns ---> {ami} 'I', {tumi} 'you', {še} 'he/she',
 {āi} 'he/she' (ND)

indefinite pronouns ---> { keu } 'someone', { je keu } 'anyone'

relative pronouns ---> {ke} 'who', {karā} 'whom', {kār} 'whose'

demonstrative pronouns ----> {eṭa} 'this', {eigulo} 'these'
 {oigulo} 'those' (SCB)
 {eḍa} 'this', {oiguli} 'those'
 {ṭane} 'here' (ND)

4.4. Prenouns

Prenouns $\rightarrow \left\{ \begin{array}{l} \text{Quan} \\ \text{Prt} + \text{Q com} \\ \text{NP} + \text{Poss} \end{array} \right\}$

Following rule (41), pre-nouns have three options in replacing the nouns in the initial string. The three options are exemplified here.

PS Rule for (41)

Prenoun ----> Quan

The pre-noun may be replaced by a quantifier in the NP when the noun follows it. There is one exception to this rule, i.e., when a pronoun may also follow quantifiers such as the following {hœ} 'either', {nœ} 'neither', as in the expression {hœ tumi ...} 'either you', {nœ še} 'neither he (she)'.

4.40.

Rule (42) shows that a quantifier, when it is used in an NP, has two re-write rules: (a) the noncount quantifier (Q_{nc}) is followed by a noun and a possessive, such as in the phrase {kichu loker bhir} 'a crowd of some people' (some people's crowd); or (b) the plural quantifier (Q_{pl}) is followed by a noun and a verb, such as in the example {kotokgulo lok jœ} 'several people go'.

4.41. Quantifiers

Quantifiers play a significant role in SCB and ND. They occur in two forms, as shown in Rule (42).

$$\text{Quan} \longrightarrow \left\{ \begin{array}{l} Q_{nc} + N + \text{poss} \\ Q_{pl} + N + V \end{array} \right\} \quad \begin{array}{l} \dots a \\ \dots b \end{array}$$

Rule (42) assigns the function of the quantifiers where
 (a) the quantifiers of a non-count noun and a possessive, or
 (b) in the case of a plural quantifier, nouns always precede the verb. When the quantifier precedes the noun, neither the noun nor the verb forms are changed.

4.42. Noncount quantifiers (Q_{nc})

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{kichu}	{kit̩ u}	some
{ɔnek}	{ɔneg}	much
{šɔb}	{hɔgol}	all

4.420. Comparative quantifiers (Q_{comp})

The use of comparative quantifiers may also be re-written as three optional rules.

Rule (42 a)

$$Q_{comp} \longrightarrow \left\{ \begin{array}{l} \text{comp} \\ \text{cardinal} \\ \text{ordinal} \end{array} \right\} + \left\{ \begin{array}{l} N + (\text{poss}) + N \\ N + V \end{array} \right\}$$

Rule (42 a) is able to handle comparative quantifiers where they may occur in one of the three forms shown in the rule. When the quantifiers precede a noun, the next word sequence may be either a possessive and a noun or a single verb.

In SCB, comparatives are formed in two ways, either by the inflectional endings {-tɔro} '-er' or {tɔmo} '-est' on adjectives, or by the quantative morphemes {beši} and

{šɔbcee beši} preceding the adjectives. The inflectional endings {-tɔro} and {-tɔmo} are not true colloquial forms in the sense that they have a restricted distribution, always attached to words commonly used in High Bengali, which are more or less Sanskritized forms. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{šundor mee}	{hundɔr maia}	(She is a) pretty girl
{šɔbcee šundor mee}	{k ^h ub hundɔr maia}	(She is) prettier
{šɔb cee šundor mee}	.....	(She is) prettiest
{prothom cheler dɔl}	{hoila holagulir dɔl}	First group of boys
{æ kɽa boi}	{æ kɽa boi}	One book
Cardinal numbers:		
{car}	{ɽ ar}	four
{aɽ}	{aɽɽ}	eight
ordinal numbers:		
{prothom}	{portɔm}	first
{ditio}	{ditio}	second
comparatives:		
{-tɔro}		-er
{beši}		-er
{-tɔmo}		-est
{šɔbcee beši}		-est

4.3. Case

Case plays an important role in the morphemic structure and syntax of SCB and ND. The relation of the verbs to objects is indicated by different cases markers in the language. The NP of SCB and ND is largely dependent on case for structural description and parsing.

Six different cases are described in Bengali grammar. They are, Nominative [korta], Accusative [kormo], Instrumental [karon], Dative [šomprodan], Ablative [padan] and Locative [odhikaron]. Suffixes are added to nouns and pronouns to denote case. Case morphemes are different for singular and plural numbers in SCB and ND. These are shown here with examples.

Case ----> { Nom., Acc., Inst., Dat., Abl., Loc., + number }

Number -----> { singular
 { plural } }

singular ----> { -e } , { -o } , { -te } , { -ke } , { -re } , { -die }
 { theke } (SCB)
 tone

plural ----> { -ra } , { -era } , { -der } , { -gulo } , { -šobai }
 { -guli } { -šokole }
 { -der moddhe }

Examples from SCB:

<u>suffix</u>	<u>case</u>	<u>number</u>	<u>examples</u>	<u>Glosses</u>
{ -te }	Nom	sg	{ gorute khol khae }	The cow eats oilcake.

<u>suffix</u>	<u>case</u>	<u>number</u>	<u>examples</u>	<u>Glosses</u>
{-ke}	Acc	sg	{jonke Dako}	Call Joan
{-die}	Inst	"	{churi die kaTo}	Cut it with a knife
{-e}	Dat	"	{take kolom kine dao}	Buy a pen for him
{theke}	Abl	"	{gach theke pata porche}	The leaves fall from the tree
{-e}	Loc	"	{šundorbone onek horiŋ ache}	There are many deer in Sundarban
{-gulo}	Nom	pl	{chelegulo khæ la korche}	The boys are playing
{-der}	Acc	"	{jonder na dekhe ami ækdino colte parine}	I can not pass a single day without seeing Joan and others
{-der}	Inst	"	{corder die kokhono bhalo kaJ hote parena}	A good thing is never done by thieves
{-der}	Dat	"	{bhaider Jonne še onek ghorī kineche}	He has bought many watches for his brothers
{-der}	Abl	"	{meeder moddhe lina šundori}	Lina is the prettiest among the girls
{-gulo}	Loc	"	{pukurgulo mache bhorthi}	Those ponds are full of fish

Examples from ND

<u>suffix</u>	<u>case</u>	<u>number</u>	<u>examples</u>	<u>Glosses</u>
{-Da}	Nom	sg	{goruDa gas k ^h ae}	The cow eats grass
{-re}	Acc	"	{keare bolae}	Call Keya
{dia}	Inst	"	{t _ɟ aku dia kaDo}	Cut (it) with a knife
{-e}	Dat	"	{tare kɔlɔm kinna dao}	Buy a pen for him
{təne}	Abl	"	p ^h olDa gašer tone horše}	The fruit falls from the tree
{-e}	Loc	"	{hundɔrbəne bag aše}	There are tigers in Sundarban
{-gula}	Nom	pl	{holaguala k ^h æltəše}	The boys are playing
{-der}	Acc	"	{dʒɔnder na deikka ʔi æk din t _ɟ olte hari na}	I can not pass my days without seeing Joan
{-gɔre}	Inst	"	{t _ɟ orgɔre dia konodin bala kaɖʒe na}	A good thing could never be done by thieves
{-er}	Dat	"	{he heier baier dʒonne egguli gori kinše}	He has bought some watches for his brothers
{-gular}	Abl	"	{maiagular moidde benu hundɔr}	Benu is prettiest among the girls
{-gula}	Loc	"	{huirgula mat _ɟ e hura}	The pond is full of fish

As the nouns of SCB and ND are inflected for case, the latter plays an important role in noun-phrase. The identification and the functions of case suffixes are as such, necessary, as nouns change their functional roles when inflected for cases.

4.4. Number

Number is important for the nouns and the pronouns of SCB and ND, as both are inflected for it. However, there is a restriction on the abstract noun, which is not inflected for number. {šondorjo} 'beauty' is possible but not *{šondorjogulo}, adding a plural marker. Plural morphemes are added to proper nouns, although they do not indicate plurality but rather case. For example, {mithun} 'Mithun-a proper name', is possible but not *{mithungulo} as it does not mark plurality and does not indicate more than one Mithun. On the other hand, {ra} may be added to Mithun to indicate plurality, such as in the expression {mithunra bæ rate gæ che}, which means 'Mithun has gone out with other members of the family or friends'. Therefore, it may be said that proper and abstract nouns are not inflected for number.

Plural morphemes are used in SCB to indicate plurality of objects. They are {-ra}, {-era}, {-der}, and {-gulo}.

SCB and ND.

The following rule, with restrictions, is intended for the application of number in different nouns and pronouns in SCB and ND.

Rule 43

Number	--->	{ singular plural }	
singular	-->	{Q}	
plural	--->	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">count {animate inanimate}</div> <div style="display: inline-block; vertical-align: middle;">noncount all pronouns</div> </div>	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">+{ra} (SCB and ND)</div> <div style="display: inline-block; vertical-align: middle;">+{-gulo} (SCB), -gula (ND)</div> <div style="display: inline-block; vertical-align: middle;">+{Q}</div> <div style="display: inline-block; vertical-align: middle;">+{-der} (SCB)</div> <div style="display: inline-block; vertical-align: middle;">{-go} (ND)</div> <div style="display: inline-block; vertical-align: middle;">{-ra} (SCB and ND)</div> <div style="display: inline-block; vertical-align: middle;">{-te} (ND)</div> </div>

The ways in which plural markers are used in SCB and ND are shown in the following sections.

4.5. Plural Formations

4.50. Pronouns

SCB and the ND pronouns are divided into four classes, Personal, Relative, Demonstrative and Interrogative. Separate phrase-structure rules are needed for them as the inflections for each class differ from those for another class. Four sets of rules for SCB and ND are shown here. It should be noted that the pronouns of SCB and ND are inflected for

person, and case. Beside this, pronouns have three forms for the second person and two forms for the third person. In the second person, pronouns are categorized as honorific (hon), nonhonorific (nonhon) and those for common use. The same rule is applicable to the third person, which has two forms, for honorific and nonhonorific distinctions. All these variations are marked in the phrase structure rules.

4.51. Plural formations for Personal pronouns

The plural formation rule for the personal pronouns in SCB is shown as Rule .

Rule 44

pronoun ----> {personal}+pl {-ra}

examples

Glosses

{ami}	{amra}	I - we
{tumi}	{tomra}	You- You
{tui} + pl -->	{tora}	" "
{apni}	{apnara}	" "
{še}	{tara}	he, she - they
{tini}	{tāra}	" "

In SCB, phonological changes are also noticeable before adding plural markers to the base. A total change of the morpheme is evident from the third person nonhonorific singular to the plural, where {še} --> {tara}, which is comparable to the English system $\begin{Bmatrix} \text{he} \\ \text{she} \end{Bmatrix} \rightarrow \{\text{they}\}$. Moreover, it is quite

evident in the given examples, that SCB and ND have little variation in morphology, except for third person plural numbers, where ND has an extra suffix {-te} for marking plurals.

pronoun $\rightarrow \{\text{personal}\} + \text{pl} \begin{cases} -\text{ra} \\ -\text{te} \end{cases}$

<u>examples</u>		<u>Glosses</u>
{ãi}	{amra}	I - we
{tui}	{tomra}	you - you
{tui} + pl -->	{tura}	" "
{amne}	{amnera}	" "
{he}	{hete}	he, she - they
{hete}	{hetenra}	" "

In the above examples, ND shows phonetic changes before adding suffixes for plural markers. One more change is noticeable in third person honorific use for plurals, where an additional {-n} infix is added to it to distinguish non-honorific from honorific usage.

4.52. Other rules for plural formations

Beside personal pronouns, other morphemes of different categories may also qualify for plural markers. These are described here with different phrase-structure rules.

in the following. Separate PS rules are chosen for SCB and ND as they vary in their forms.

Examples from SCB:

A.

{ami}	{amam}	Glosses
{tumi}	{tomam}	I - my
{tui}	{tor}	you - your
{apni} + poss-->	{apnar}	" "
{še}	{tar}	he/she - his/her
{tini}	{tār}	" "
{ke}	{kar}	who - whose

B.

{amra}	{amader}	we - our
{tomra}	{tomader}	you - your
{tora}	{toder}	" "
{apnara} +poss-->	{apnader}	" "
{tara}	{tader}	they - their
{tāra}	{tāder}	" "
{kara}	{kader}	who - whose

C.

{amar}	{amari}	my - mine
{tomar}	{tomari}	your - yours
{tar}	{tari}	his - his
{amader}	{amaderi}	our - ours
{tomader}	{tomaderi}	your - yours
{tader}	{taderi}	their - theirs

The following PS rules are applicable for ND:

<u>Examples</u>	<u>Glosses</u>
AA.	
{āi}	{ār} I - my
{tui}	{tor} he - his
{amne} + poss -->	{amner} " "
{heten}	{hetener} he - his
BB.	
{ār}	{āri} my -mine
{tor}	{tori} your - yours
{tar} + poss -->	{tari} his - his
{amago}	{amagoi} our - ours
CC.	
{ar}	{amgo} mine - our
{tor}	{togo} your - yours
{amner} + poss-->	{amnego} " "
{heten}	{hatengo} " "
{kara}	{kago} whose - whose

SCB and ND vary considerably in adding possessive markers for personal and relative pronouns, as is shown in section BB and C in the examples above.

4.530. Possessive formation for Nouns and Indefinite pronouns

As with personal and relative pronouns, nouns and indefinite pronouns also add possessive morphemes to their bases. Two possessive morphemes are added to the

SCB bases for possessive formations, {-r} and {-er} . {-er} has restricted use for proper names. If the proper name ends in a vocalic segment, {-er} is not added to it. For example, the proper name {bulu} , will never be marked by {-er} but by {-r}.

Rule restriction for proper names in possessive formations:

{.... V} ----> {.... V} + {-r} (a)

{.....} ----> {.....} + $\begin{Bmatrix} -r \\ -er \end{Bmatrix}$ (b)

The following rule (Rule 46) is applicable to possessive formations for nouns and indefinite pronouns in SCB.

Rule 46

$$\left\{ \begin{array}{l} \text{proper noun} \\ \text{indefinite pronoun} \\ \text{count} \\ \text{noncount} \end{array} \right\} \xrightarrow{+poss} \left\{ \begin{array}{l} \text{proper noun} \\ \text{indefinite pronoun} \\ \text{count} \\ \text{noncount} \end{array} \right\} + \begin{Bmatrix} -r \\ -er \end{Bmatrix}$$

Examples:

Glosses

{khokon}	----> {khokoner}	of Khokon
{bulu}	----> {bulur}	of Bulu
{prottek}	----> {protteker}	of each (person)
{onek}	----> {oneker}	of many (persons)
{Tebil}	----> {Tebiler}	of a table
{bon}	----> {boner}	of a sister
{ma}	----> {mar}	of a mother

The possessive morphemes which are added to the ND bases for possessive formations of nouns and indefinite pronouns differ from those of SCB. Three different possessive morphemes are used in ND, {-go} , {-eri} and {-gular} .The following PS rule handles the possessive formations of nouns in ND.

$$\left\{ \begin{array}{l} \text{proper noun} \\ \text{indefinite pronoun} \\ \text{count} \\ \text{noncount} \end{array} \right\} + \text{poss} \rightarrow \left\{ \begin{array}{l} \text{proper noun} \\ \text{indefinite pronoun} \\ \text{count} \\ \text{noncount} \end{array} \right\} + \left\{ \begin{array}{l} \text{-go} \\ \text{-eri} \\ \text{-gular} \end{array} \right\}$$

Examples:

{mita} ----> {mitago}
 {hɔttek} ----> {hɔttekeri}
 {Tebil} ----> {Tebilgular}
 {tj ele} ----> {tj elegular}

Glosses

Mita's
 each person's
 table's
 boy's

4.6. Verb-Phrase Rules

The verb-phrase in SCB and ND has the following construction.

Rule 47

$$\text{VP} \rightarrow \text{verbal} \left\{ \begin{array}{l} \text{adv} \\ \text{adv-p} \\ \text{NP} \\ (\text{int}) + \text{adj} \end{array} \right\}$$

This rule imposes a requirement regarding the occurrence of the verb-phrase of SCB and ND. An occurrence becomes

verbal if it is followed by one of the following strings:

(a) adverb, (b) NP or (c) adjective. An intensifier is shown in the optional position for the adjectives, as they may or may not be preceded by an intensifier. Sometimes the adjectives are used without any intensifiers as in the following sequences:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{še bhalo mēē}	{he balo maia}	She is a good girl
{še baje chele}	{he baḍe hola}	He is a bad boy
{tara dustu lok}	{tara baḍe manuś}	They are naughty people

Occasionally intensifiers are used before adjectives to emphasise quality, as in the following sequences:.

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{še khub bhalo chele}	{he k ^h ub bala hola}	He is a very good boy
{še ottonto šundori}	{maiDa beši hundori}	She is extremely beautiful

{eṭa ottonto baje boi}	{heiDa boro baḍe boi}	It's a rotten movie
---------------------------	--------------------------	---------------------

Rule 47 a

VP ----> verbal {(int) + adj}

Intensifiers ----> {ottonto} 'very', {khub} 'very' (SCB)

Adjectives ----> {šobuḥ} 'green', {holde} 'yellow', {bhalo} 'good'
 {šundor} 'handsome' (SCB)
 {kala} 'black', {bala} 'good', {mōnda} 'bad' (ND)

The adverb at the right as shown in Rule 47, is optional, as the position can be filled by either an adverbial phrase or by an adverb. Sequences such as {ghor^rer moddhe} 'inside the room', {baganer bhetore} 'inside the garden' are taken here as adverbial phrases. In addition to the adverbial phrases, adverbs are used in SCB and ND to convey different meanings. They are normally used for six different purposes, as shown here with examples.

Rule (47) is capable of producing sentences such as those shown below, by applying the kernel rule for verbals, followed either by an adverbial phrase, adverbs, NP, adjectives preceded by intensifiers or simple adjectives.

- a) S ----> {kea ottonto šundor} {kea k^hub hundor} (ND)
(SCB)

'Keya is too pretty'.

NP ----> {kea} 'Keya'

VP ----> int + adj

int --> {ottonto/ k^hub} 'too'

adj --> {šundor / hundor} 'pretty'

- b) S ----> {še mee manuš} (SCB) {he maiamanuš} (ND)

'She is a woman'.

NP ----> pron

pron --> {še / he} 'she'

VP ----> NP

NP ----> {mee manuš / maiamanuš} 'woman'

c) S ----> {rita bhalo mee} (SCB) {rita balo maia} (ND)

'Rita is a good girl'.

NP --> {rita} 'Rita'

VP --> NP

NP --> adj + NP

adj -> {bhalo / balo} 'good'

NP --> {mee / maia} 'girl'

d) S ----> {tara roeche gharer bhetore} (SCB) 'They are inside
{hera gorer moidde horse} (ND) the room'.

NP --> pron + (person + number)

pron --> {tara} 'they'

NP --> adv-p

adv-p -> {ghorer bhetore / gorer moidde} 'inside the room'

4.60. Verbs

SCB and ND verbs may be grouped into four classes on the basis of their structural distribution in sentences. They are the transitive class, the intransitive, verbs with double objects and compound verbs. A short description is given here for each class of verbs.

a) Transitive verbs (V_t):

Among the four classes of verbs the transitives and the intransitives are widely used in SCB and ND. Transitive verbs fill the verbal position and always occur following an object.

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{miko bhat khacche}	{mikobat kaitaše}	Miko is eating rice
{lina boi porche}	{lina boi hørse}	Lina is reading a book
{šabana hat dhoe}	{šabana ʔat doe}	Sabana washes her hands
{še bəl khæ le}	{he bəl k ^h æ le}	He plays football

b) Intransitive verbs (V_1):

An intransitive verb may be defined as a unit which fills the verbal position but is not preceded by an object.

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{rubi cole gæ che}	{rubi ʔ oilla gæse}	Ruby has gone.
{bulu hāʔche}	{bulu āʔtaše}	Bulu is walking.
{še ghumucche}	{he gumaitaše}	He is sleeping.

c) Verbs with double objects (V_{2ob}):

Where transitive verbs are preceded by a single object, some verbs may be preceded by two objects. Verbal forms of this type are quite common in SCB and ND. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{baba cheleke æ kʔa kʔtha jiggeš korlen}	{baba holare æ kDa kʔa jigaiše}	Father asked his son something.

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{kobita riluke kotokgulo prošno šudholo}	{kobita rilure kotgguli hošno jigaiše}	Kabita asked Rilu some questions.
{še take p̄eša kothae jante cailo}	{he tare jigaiše huiša konai}	He wanted to ask him where the money is.

In the examples, the verbs {jiggeš korlen}, {šudholo}, and {jante cailo} are preceded by two objects, {cheleke --- kotha}, {riluke --- prošno} and {take --- p̄eša}.

d) Compound verbs (V_c):

In both SCB and ND, two verbs may sometimes combine together to indicate a single action. These verbs occur immediately one after the other. They are known^{as} compound verbs in Bengali. Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{hena kēde phello}	{hæ na kãida diše}	Hena could not stop crying.
{runuke jete dao}	{runure d̄aite dao}	Let Runu go.
{še neše phello}	{he aišša diše}	He could not stop laughing.
{cheleṭa kēde uṭhlo}	{holada kainda uṭse}	The boy started crying.

In the examples, {kēde phello}, {jete dao}, {neše phello},

and {kēde uThlo} are compound verbs, but if they are used independently they express two different meanings. For example, {kēde phello}, if used independently, has two verbal forms and two meanings, {kāda} 'to cry' and {phaēla} 'to drop'.

The following rules for the verbal forms of SCB and ND includes use of all four verb forms in the language.

Rule 48

$$\text{Verbal} \longrightarrow \left\{ \begin{array}{l} \text{object} + V_t \\ V_i \\ V_c \\ \{ \text{NP} + \text{adj} + V_{2ob} \} \\ \{ \text{NP} + \text{adv} + V_{2ob} \} \\ (\text{int}) + \text{adj} \\ \{ \text{adv} \} \\ \{ \text{adv-p} \} \end{array} \right\}$$

In Rule (48), several possibilities for verbal forms are shown with different structural categories which generate rules. There are two options for the verbs with two objects. They can be preceded either by an adjective or an adverb. The same optional rules are shown for adverbs, where an adverb or an adverbial phrase may precede a verb. The following examples are given to indicate the occurrence of the verbal forms shown in Rule (48).

a) S \longrightarrow {šē bhat khacche} (SCB) {he bat kaitaše} (ND)

'He is eating rice'.

verbal ----> NP + V_t

NP ----> {še / he} 'he', {bhat / bat} 'rice'

V_t ----> {khacche / kaitaše} 'is eating'

b) S ----> {še gæche} 'He has gone'.

verbal ----> V_i

V_i ----> {gæche} 'has gone'

c) S ----> {rubi heše phello / rubi haiša diše}

'Rubi could not stop laughing'.

verbal ----> V_c

V_c ----> {heše phello / haiša diše}

d) S ----> {še ašte kotha ba le} (SCB) {he ašte kotha koe} (ND)

'He speaks slowly'.

Verbal ----> {adv
 {adv-p}}

adv ----> {ašte} 'slowly',

4.7. Tense

A tense may be described as a unit which occurs in the auxiliary position and which includes morphemes, to indicate the present, past and future time of action or state of its argument (Langendoen, 1969-156).

There are three tenses in SCB and ND, present, past and future. Inflectional suffixes are attached to verb classes to indicate tense forms. Verbs are inflected for

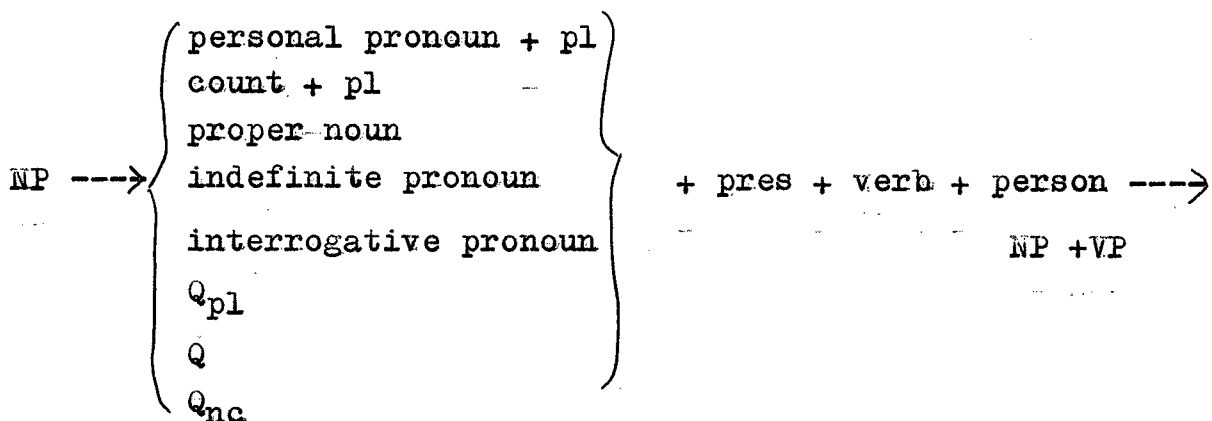
tense and person in both SCB and ND, and are thus different from nouns, which are inflected for case and number. The following examples are provided to show the tense forms in SCB and ND.

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{ami kheli}	{āi keli}	I play
{tumi khæ lo}	{tumi kæ lo}	You play
{tui kheliś}	{tuā kæ lōs}	"
{apni khæ len}	{amne kæ len}	"
{śe khæ le }	{he kæ le }	He plays
{tini khæ len}	{heten kæ le }	"
{ami khelechilam}	{āi kelāśi }	I played
{tumi khelechile}	{tumi kellaśo }	You played
{tui khelechili }	{tui kellaśoś }	"
{apni khelechilen}	{amne kellaśon }	"
{śe khelechilo }	{he kellaśe }	He played
{tini khelechilen}	{hetene kellaśen }	"
{ami khelbo }	{āi kelum }	I will play
{tumi khelbe }	{tui kelba }	You will play
{tui khelbi }	{tui kelbi }	"
{apni khelben }	{amne kelben }	"
{śe khelbe }	{he kelbo }	He will play
{tini khelben }	{hetene kelben }	"

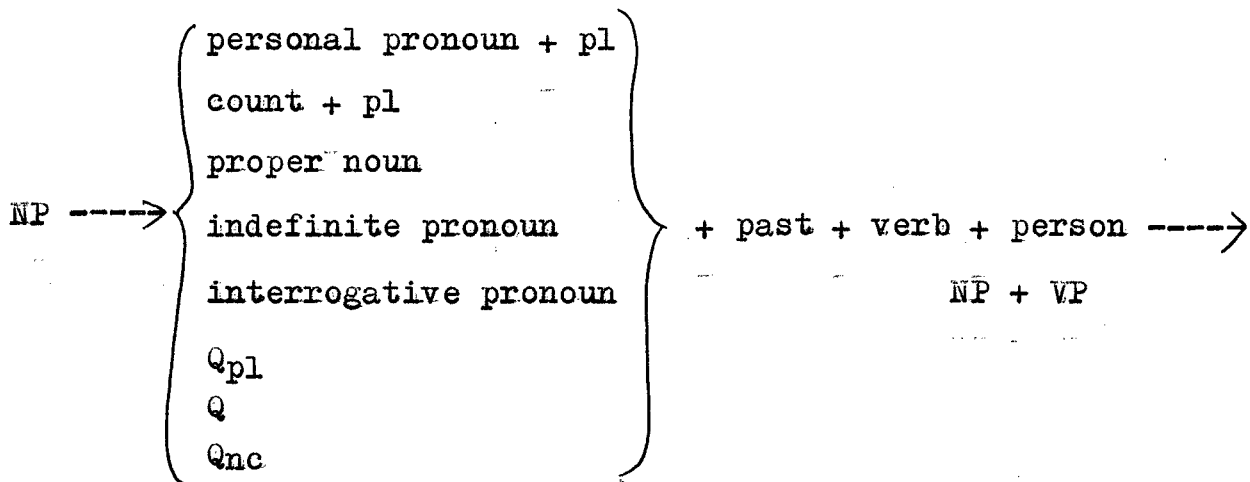
4.70. Tense formations

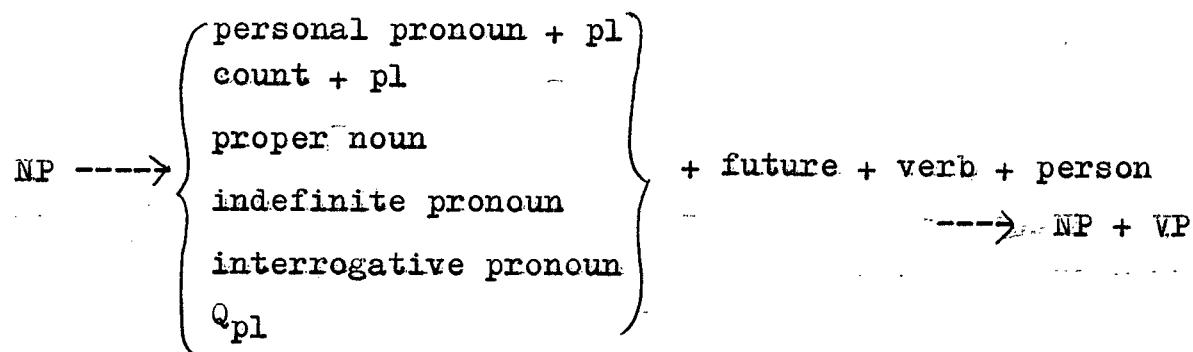
Three graphic rules are shown below to indicate the tenses with some other inflectional features of SCB and ND. The rules turn out to be complicated due to inflectional patterns of different persons.

Rule 49



Rule 50



Rule 51

In tense formations, SCB and ND differ largely in inflectional patterns. Both dialects employ two common present tense morphemes {-i} and {-e} . However, they vary considerably in indicating past tense, where they have no identical tense morphemes. SCB and ND do also share three common tense morphemes denoting future tense {-bi}, {-be} , {-ben} .

4.71. The Auxiliary Position

In SCB and ND the auxiliary position in the kernel rule can be filled by tense when it follows a modal.

Aux ----> Tense + (modal)

There are restrictions in the occurrence of auxiliaries in SCB and ND. Auxiliaries are not used normally in the VP, unless the possessive case is added to the NP. Therefore, the auxiliaries have an optional rule for SCB and ND, one which is described here.

Optional rule for the auxiliaries in SCB and ND:

Aux ----> + aux / [NP + poss]

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{še æ kʃon chele}	{he æ kDa hula}	He (is) a boy. ..1
{tar æ kTa lal boi ache}	{her æ kDa lal boi aše}	He (his) has a red .. 2 book.
.. 1 Aux --> Ø		
.. 2 Aux --> {ache}		

In sentence (..2), pronoun {tar} 'his' is used as a possessive, and the verb follows the adjective. Auxiliaries used in English, such as {aux+be}, are absent in SCB and ND.

4.72.

Some verbs have restrictions of occurrence and are not inflected for present tenses. Among them is the equivalent of the English 'is' ('are') which never occur in the surface structure. For example, in sentence such as {še bhalo chele}, 'he (is) a good boy', {eTa æ kTa bonduk} 'this (is) a gun', the verb 'is' is not shown in the surface structure. This rule is not applicable to the past tense, where the past form of 'is' occurs regularly following the syntactic patterns of the language. In examples such as {še bhalo chilo}, 'he was well', {šekhane æ kTa bonduk chilo}, 'there was a gun', the past forms of 'to be' occur regularly. Therefore, it can be said that although the verbal forms 'is' and 'are' do not occur in the

present, the appropriate forms always occur in the past, clearly indicating that 'is' and 'are' occur only in the deep structure of the language.

4.73.

Modals also have restricted use in SCB and ND. The equivalents of English modals 'may' and 'can' are used with the same meaning and without any functional difference. However, 'must' is used as a modal in SCB and ND. The ^{equivalents of} English modals 'shall' and 'will' are used to indicate future tense. The past tenses 'would' and 'should' do not make any difference in the language. The following PS rule is applicable for SCB and ND.

Modal ---→ {pres + pare/ hare}
 {past + parto/ harto}

Examples:

<u>SCB</u>	<u>ND</u>	<u>Glosses</u>
{pare}	{hare}	can; may
{parto}	{harto}	could
{jbossso}	.....	must

Chapter V

5. Concluding remarks

5.0.

This is the first attempt to apply the generative transformational model of Chomsky to the phonology and morphology of Bengali, more specifically of Standard Colloquial Bengali and of one other dialect, the Noakhali Dialect. As would be expected, some methodological problems arose in finding rules for the language, as the work done to date using this model has been largely on non-Indian languages. As such, most of the rules provided by Chomsky-Halle (1968) needed modification, Bengali differing from the language their rules were framed for ⁱⁿ syntactic and morphemic structure, in the roles of affix, case, tense and in other grammatical categories.

5.1.

The present study has been essentially contrastive in nature. Bengali has a number of dialects, which vary in great degree in their phonology and morphology, and in some degree in syntax. The Noakhali dialect as spoken in a restricted area in southern Bangladesh, was compared in this study with Standard Colloquial Bengali, both in phonology and morphology. The contrastive mode of study was helpful in the sense that the degrees of variation

and similarity of the two forms of Bengali became clear through comparison. In phonology there was a tendency to add some new rules and at the same time to delete some old rules. This phenomenon was noticed in the phonology of SCB and ND while attempting to apply some rules and providing explanations for them. It was surprisingly found that ND has more rules for phonetic alterations of consonantal segments, where occasionally [k] --> [g], [gh] --> [g], [c] --> [tʃ] than has SCB. SCB indicated more conservativeness in the sense that it does not allow for [k] --> [g], as SCB speakers appeared to view this kind of phonetic change as a dialectical tendency, and thus 'non-standard'. SCB also preserves the phonetic values of the consonantal segments strictly, as semantic meaning is largely dependent on the distribution of consonantal segments in a word. This means that /k/ and /g/ have strict contrastive semantic values, which alter with the permutation of one segment to another. Examples:

[kan] 'ear' [gan] 'song'
 [thor] 'stem of a banana tree' [tor] 'yours'
 [cap] 'pressure' [ʃap] 'snake'

However, this does not mean that phonetic alterations are totally absent in SCB. At present, though SCB is spoken in both Bangladesh and West Bengal (India), it does not retain the same linguistic form. A plausible explanation for

this lies in the massive migration of population from East to West Bengal, and vice-versa, following the partition of Bengal in 1947. The linguistic behaviour of these migrant populations brought about rapid changes in the forms of SCB spoken in both parts of Bengal.

5.2.

The transformational rules which were introduced by Chomsky (1957) and later expanded, are not totally applicable to the Bengali syntactic pattern. Even the rules which were later introduced by Kiparsky (1968) for languages which have case restrictions, are not completely satisfactory although they are of some use. The Bengali grammatical pattern is quite complex and needs supplementary transformational rules to describe its phonology and morphology. It was found that morphological variations in Bengali occur simultaneously at morphemic boundaries, as well as within morphemes. Examples such as {oi chelegulo tader sobuj bagane douracche} 'those boys are running in their green garden', need a complex explanation of morphological patterns, as a number of rules are interconnected in their formation. The NP and VP of the above sentence are explainable only in the light of the complex grammatical categories of Bengali. The N of the NP may be divided in four ways, as N + Number + Person + Case, the noun being explainable only in the three which it is inflected for, of number, person

and case. The same rule may be used to explain the VP, as the verb is also inflected, for tense and persons, thus making the VP more complicated than in many languages.

The affixes were found to have two functional aspects in Bengali. In the first place they helped build up new morphemes, and they also play an important inflectional role at morpheme boundaries, connecting different grammatical categories such as number, person, case and tense.

These examples illustrate a basic finding of this study, that Chomsky's original rules needed modification before they could be applied to the two forms of Bengali investigated, SCB and the ND. These modified rules have been applied to these dialects of Bengali throughout the text, and, for emphasis, are summarized in the following sections.

5.3.

The common morphological features of SCB and ND, are described here with possible feature rules that were generated during this study. SCB and ND do not follow identical morphological rules, and vary in affixation, pronominal and tense formations. A few variations were also found in syntactical patterns but these variations did not indicate any fundamental differences in syntax.

The syntactical pattern of SCB and ND was described occasionally to show the morphemic pattern of SCB and ND. The final PS rules which were generated for SCB and ND are

as in the following:

S ----> NP + VP

NP --> Det + Noun

Det --> {ei} 'this', {oi} 'that' ...

Noun --> Noun + Pronoun + case + number + gender

Noun --> { proper noun
count
noncount }

proper --> {chobi} 'Chobi' ...

count --> { animate
inanimate }

animate ----> {biral} 'cat', {chele} 'boy' ...

inanimate --> {chori} 'stick' ...

noncount ----> {ghaš} 'grass' ...

pronoun ----> { personal
indefinite
relative
demonstrative }

personal ----> {ami} 'I', {še} 'he/she'

indefinite --> {keu} 'someone'...

relative ----> {ke} 'who' ...

demonstrative --> {eTa} 'this', {oTa} 'that' ...

case ----> {Nominative, Accusative, Dative, Instrumental,
Ablative, Locative}

Number ----> { singular (sg)
plural (pl) }

gender ----> { masculine }
 { feminine }

VP ----> verb + tense + person + NP

Verb ----> { transitive (V_t) }
 { intransitive (V_i) }
 { verbs with double objects (V_{2ob}) }

Tense ----> { past }
 { present } + person
 { future }

person ----> { 1 } + { honorific } 1 for first person (P₁)
 { 2 } { nonhonorific } 2 for second person (P₂)
 { 3 } { common } 3 for third person (P₃)

1 ----> { ami } 'I'

2 ----> { apni } 'you' (honorific)
 { tumi } " (common)
 { tui } " (nonhonorific)

3 ----> { tini } 'he/she' (honorific)
 { se } " (common)

Some of the phrase-structure rules which are explained above may also be shown as in the following tree diagrams.

Sentence 1

{ nilina ghorer moddhe ache } 'Nilina is inside the room'.

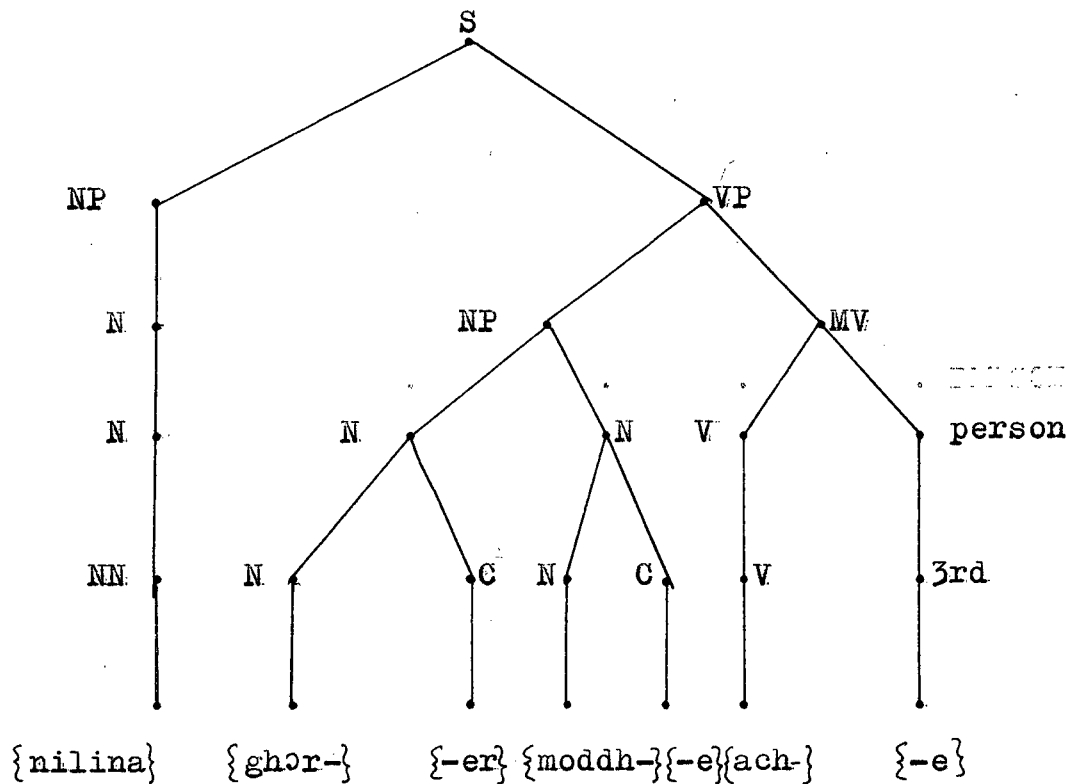


Figure: 10

Sentences such as the example given can be analysed relatively easily through the PS rules, but these PS rules can not be applied to all sentences, especially those which contain adjectives, as in the following.

Sentence 2

{se bhalo chele} sg 'He (is) a good boy'.

{tara bhalo chele} pl 'They (are) good boys'.

Sentence 2, does not contain a verb and it is difficult to predict the tense of the verb, i.e., whether it is present or past. As no verb follows in the above sequence in Bengali, the VP of the #S# remains unexplainable. This is

shown in the following tree diagram.

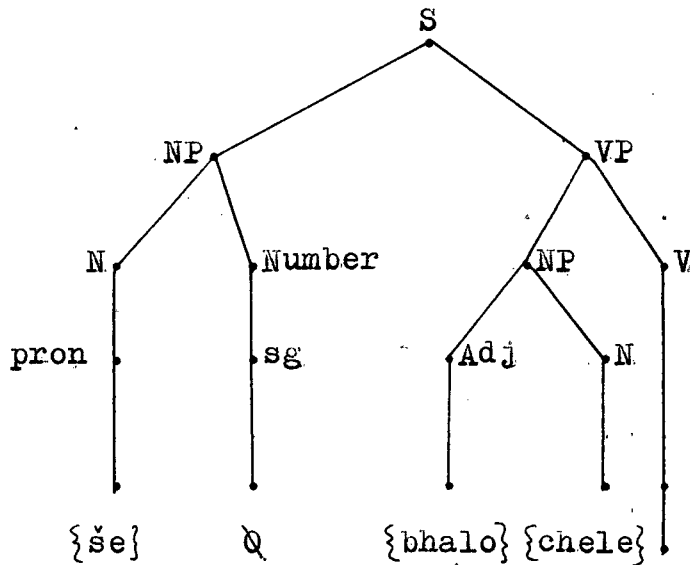


Figure: 11

It may be mentioned here that it was determined that the verb may occur only in the following restricted form in a sentence, i.e., if the #S# does not contain an object which follows the adjective. In case of non-occurrence of an object in a sentence, the meaning of the morpheme {bhalo} is changed, as in the following; {śe bhalo ache}, 'he is well', is possible as {bhalo} qualifies as an adverb as it is followed by a verb ({ache}). This indicates that for physical content the verb is retained in a sentence, and to show innate quality of a person it is deleted.

Sentence 3

{meeder ~~horo~~ śundor lagche} 'The girls look very pretty'.

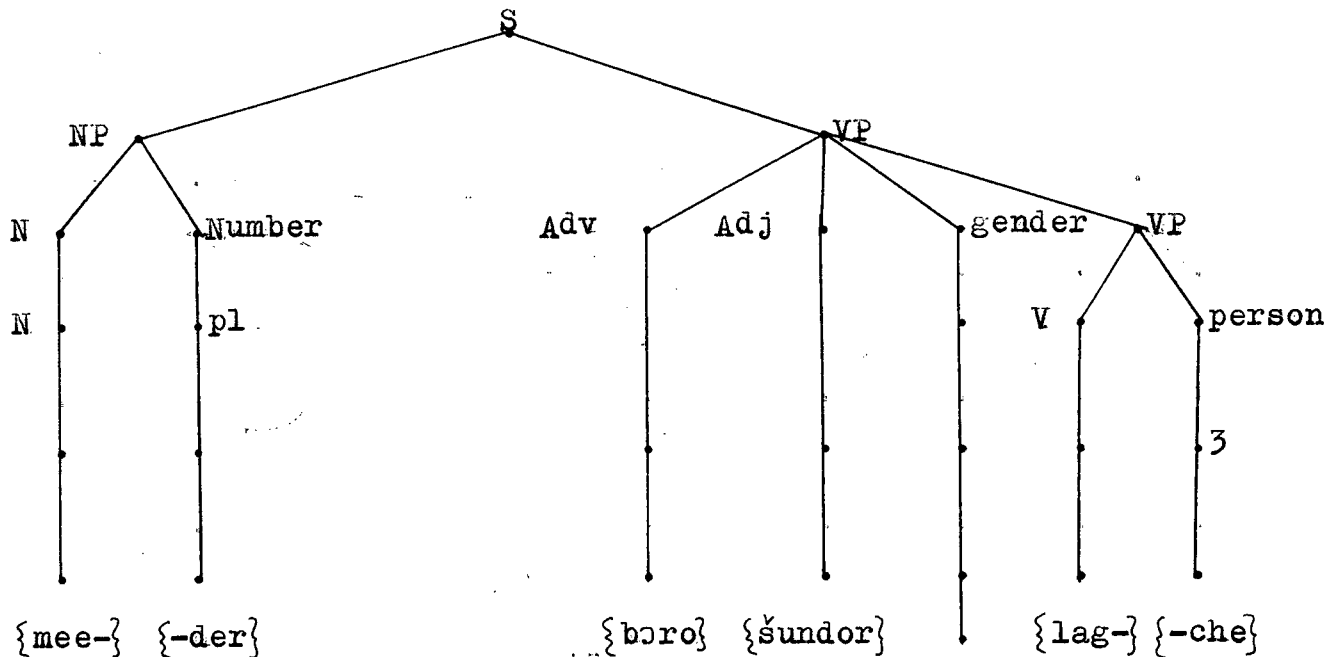


Figure:12

In the VP of sentence (3), further change may occur for gender, which has been indicated as optional. The adjective {sundor} may also change further, to {sundori}, to mark a feminine gender.

It is quite evident from the above discussion that the morphemic patterns of Bengali are quite complicated and need additional PS rules to deal with modifications. The inflectional nature of the language makes the morphology more complicated as each base morpheme occurs either inflectionally or derivationally in sentences. A sentence such as {tar bhaier barite tara bæ rate gæ che} 'they have to visit his brother's house', which is composed of six inflected morphemes (or suffixes), illustrates the usual

pattern of Bengali. The morphemes in the above sentence may be classified in the following way.

a. {tar}

{še} ----> {tar} 'he - his' <pron + poss>

b. {bhaier}

{bhai+er} 'of brother' <noun + poss>

c. {barite}

{bari + te} 'in the house' <noun-p>

d. {tara}

{še} ----> {tara} 'he -- they' <pl>

e. {bæ rate}

{bæ ra + te} 'to visit' <v+suffix+pron+person>

f. {gæ che}

{gæ + che} 'have gone' <v+suffix+pron+person>

These aspects of the Bengali morphemes have been discussed in details in section (3).

5.4.

Different dialectal maps are included in Appendix-A to provide a clear conception of the distribution of SCB and ND. Variations of lexical items and vocalic segments are indicated in maps 3 and 4. In other maps, dialect areas, different dialects of Bengali, Aryan and Non-Aryan languages in the Indian sub-continent have been pointed out.

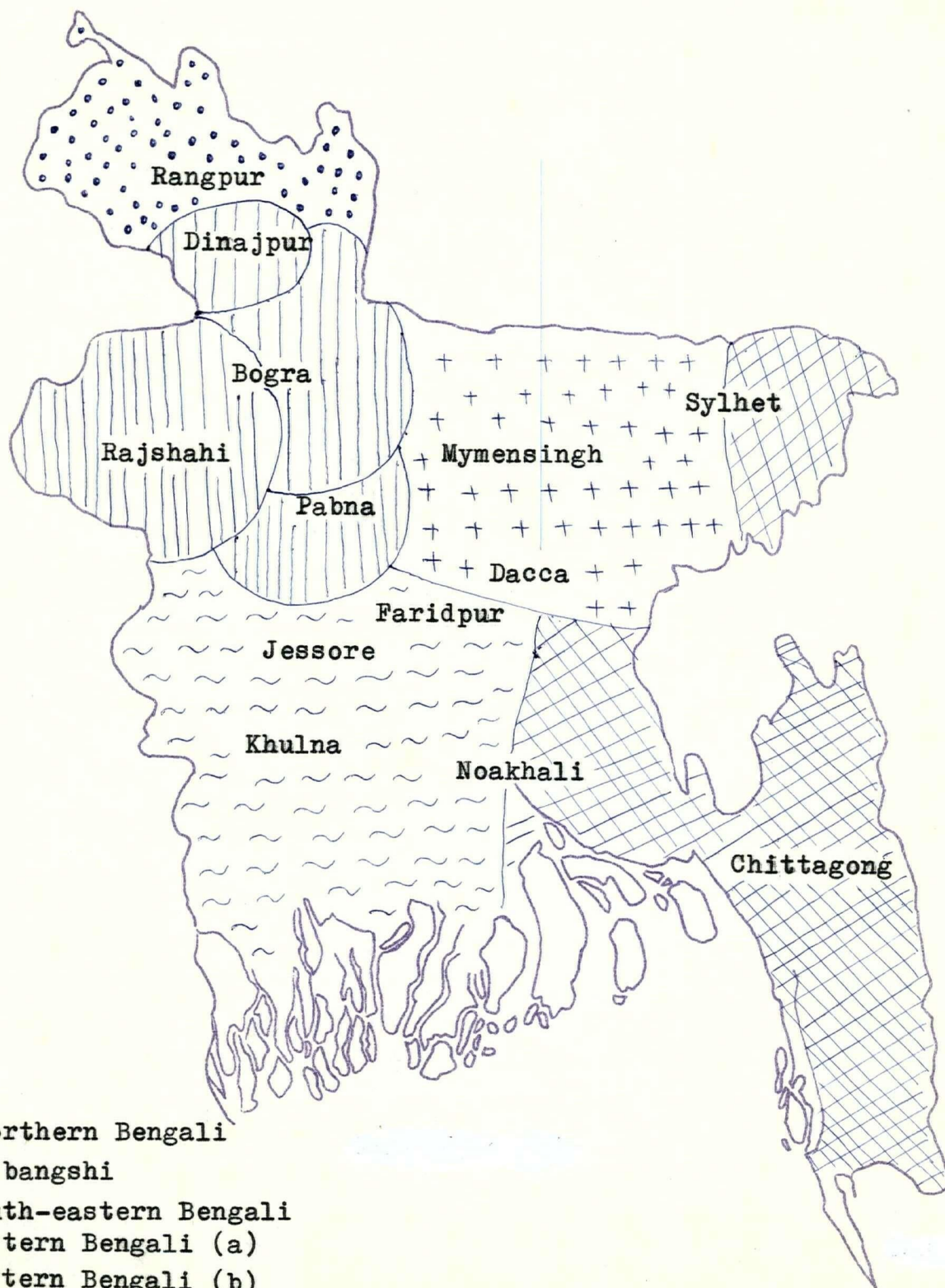
5.5.

The present study has focused primarily on the description of the phonological, morphological and syntactical patterns

of SCB and ND, although some other aspects were also included for the purpose of discussion. It was generally found that SCB and ND varied more in rules in phonology and morphology than in any other aspect. Therefore, prime importance was given to indicating major variations in phonology and morphology, variations which may be observed both in the surface and deep structure of the language.

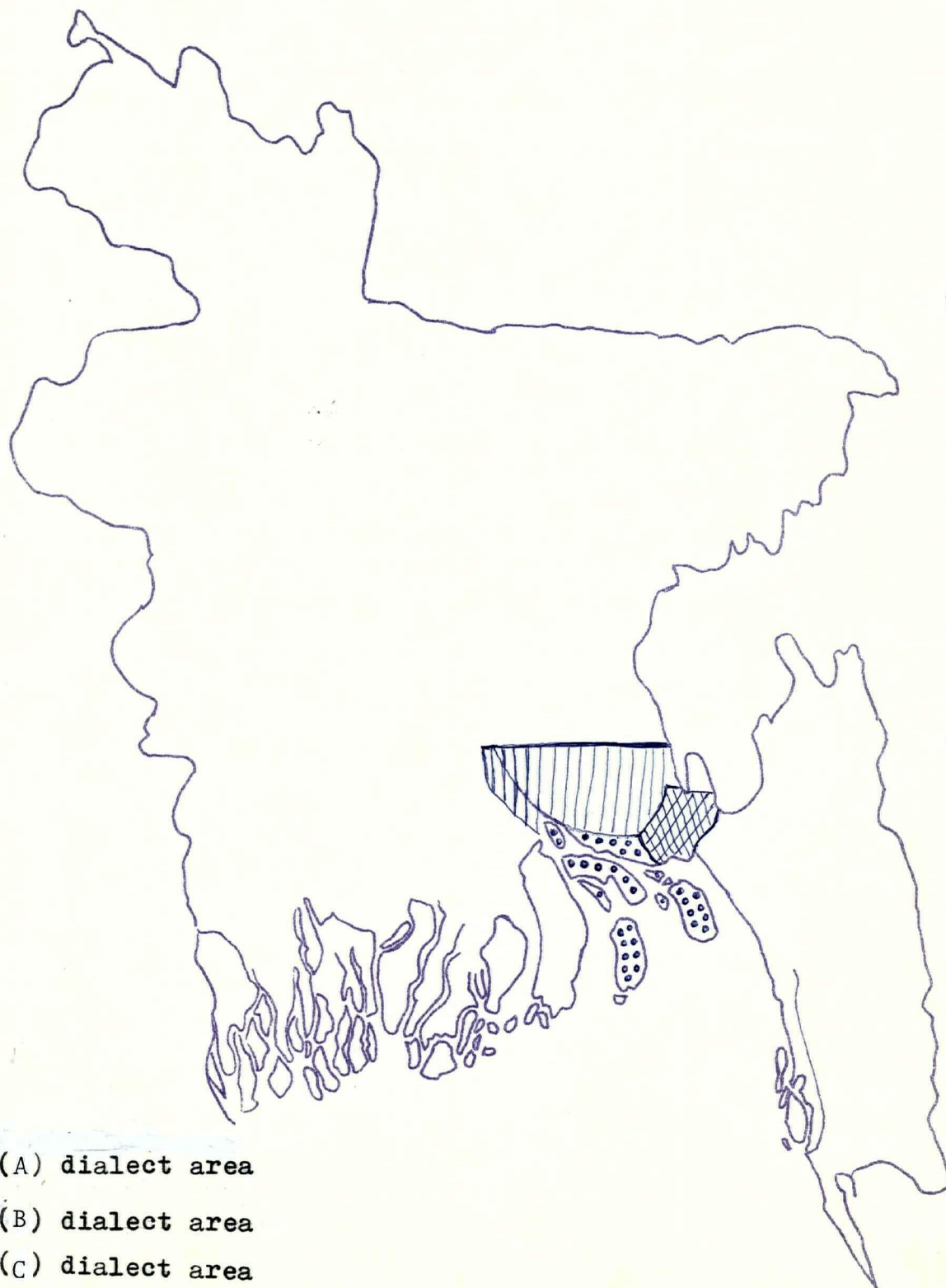
Map : 1

Bengali Dialects in
Bangladesh



Map : 2

Dialects of Noakhali



Map 3

'a man'

○ [æ kʲon lok]

○ [ʲak ʲhən]

● [æ kʲon manši]

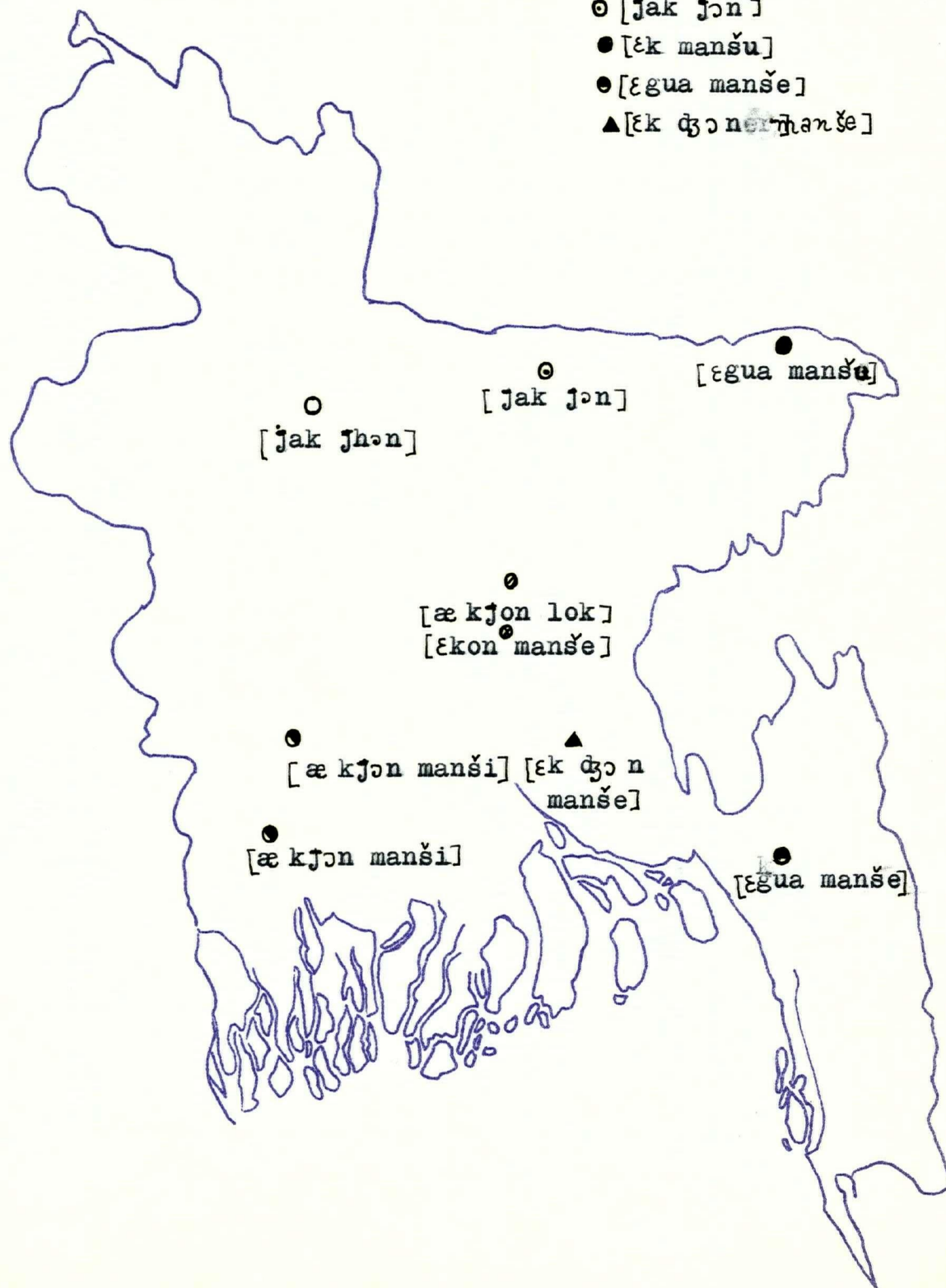
● [ɛkon manše]

○ [ʲak ʲon]

● [ɛk manšu]

● [ɛgua manše]

▲ [ɛk ɖʲon manše]



Map 4

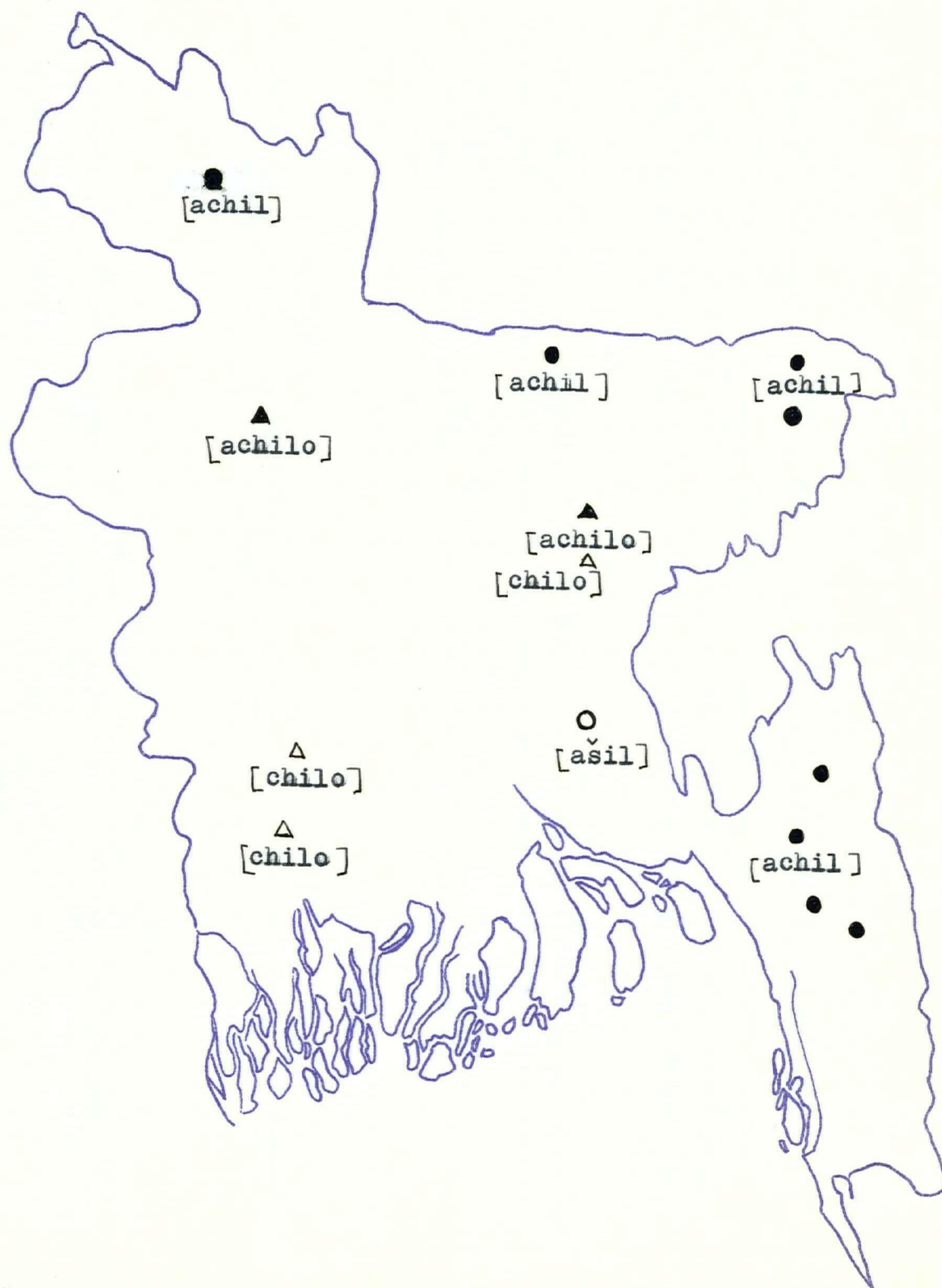
'was'

Δ [chilo]

▲ [achilo]

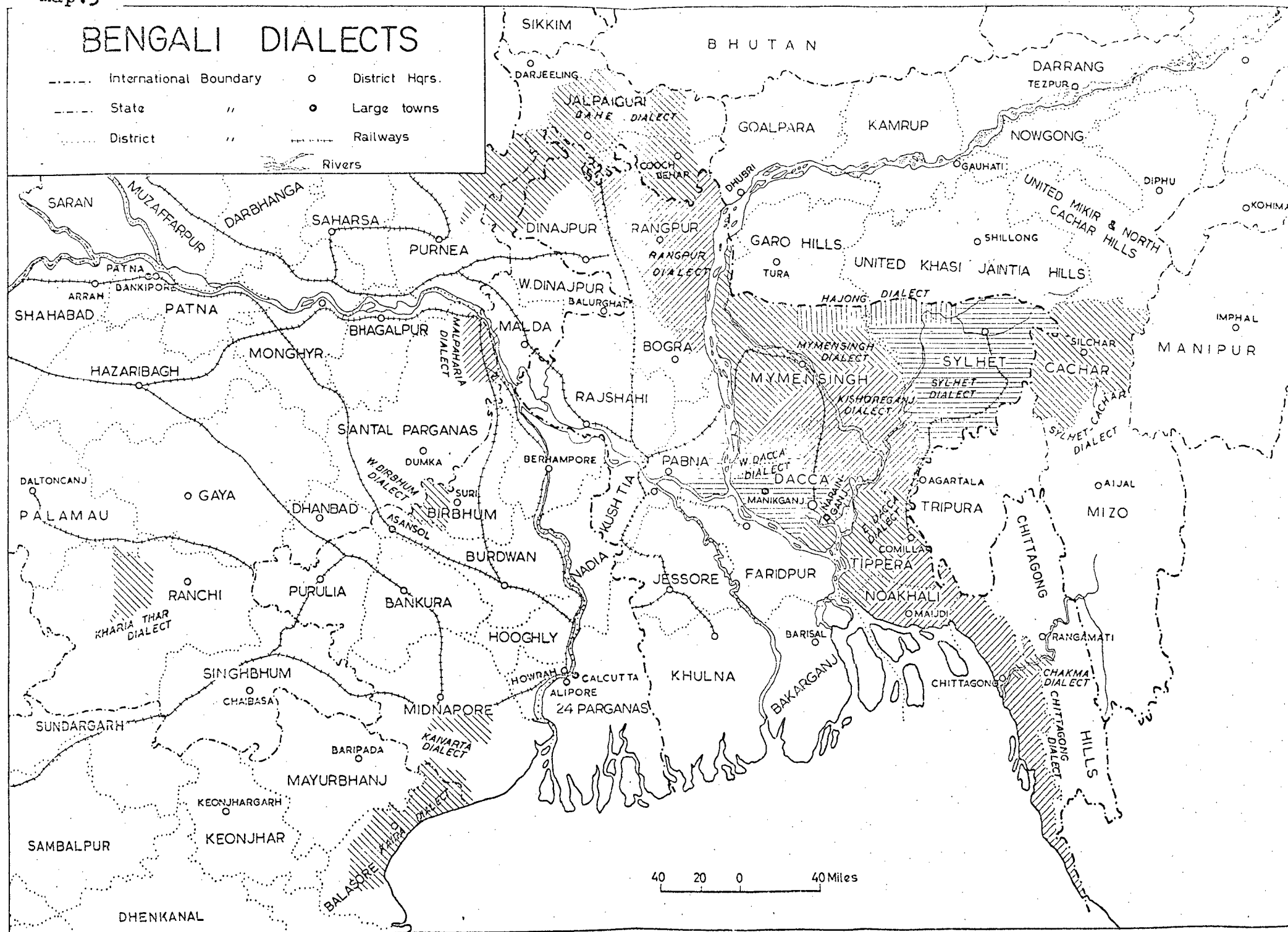
● [achil]

○ [ašil]



Map:5

BENGALI DIALECTS



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